their methods and remedies in Austria. In consequence several issues of the Vienna daily papers were confiscated last spring on account of the advertisement of some foreign charlatans, and the measure proved effective. The medical society keeps the authorities informed whenever the advertisements try to creep in again. One medical society has made out a list of all the charlatans in its district, and given it to the authorities with the request that they be kept under strict surveillance. The Vienna correspondent of the *Münch. Med. Woch.* adds to the above that a local "nature-healing institute" is now "publishing the names of several physicians as associates in the institution, and we are curious to learn whether the next Medical Chamber will remedy this."

INFLUENZA IN EUROPE.—During the past few weeks an epidemic of influenza has been prevalent to an alarming extent in London and in adjacent cities. The *British Medical Journal* of January 6 reports 193 deaths during the week ended Dec. 30, 1899. Of the 193 deaths nearly one-half of that number occurred in persons over 60 years of age. Deaths due to diseases of the respiratory organs showed an increase of 50 per cent. above the average, 1172 being reported. An epidemic of influenza in Barcelona was reported in the press dispatches, January 15. The statement was made that half the population of that city is affected.

THE PLAGUE.—The situation remains practically stationary, according to the official reports which follow: Santos, Brazil, October 15 to December 9, 37 cases and 11 deaths; Hongkong, China, November 16 to 28, 12 cases and 12 deaths; Bombay and Kurrachee, India, to December 12, 6 cases and 107 deaths; Tamsui, Formosa, October 17 to November 28, 36 cases and 6 deaths; one death was reported from Kobe, Japan, December 7; Osaka and Hiogo, Japan, report 3 new cases and 2 deaths, November 25 to December 2; 10 cases and 7 deaths are reported from Tamatave, Madagascar, November 11 to December 3. From Honolulu, 2 cases and 2 deaths were officially reported January 5. Later press dispatches convey the information that there have been 22 cases in all. The disease has been confined almost entirely to Chinese, although there have been cases in the Japanese colony, and at least two among the natives. It is said that none of the Chinese has recovered. The Board of Health has decided to destroy the Chinese quarter by fire. A military cordon has been maintained about the infected districts. The Council of State has appropriated $270,000 for the immediate use of the Board. Press dispatches from Manila state that there have been 6 cases and 4 deaths since the discovery of the disease. Several suspicious cases of the disease at Adelaide, South Australia, have proved to be bubonic plague. At Osaka, Japan, it is reported that two Japanese physicians have died of plague.

MEDICAL SERVICE IN THE TRANSVAAL.—In the *British Medical Journal* of Dec. 30, 1899, Makins gives extended surgical notes from the Orange River, under date of December 3. He calls especial attention to the fact that the wounds made by the Mauser and Lee-Metford bullets are small, clean, and little disposed to suppurate, while the tendency to suppuration is no doubt decreased by physical condition of the patients and the healthiness of the district. Shock has been conspicuous by its absence, even in the most serious cases, and retained bullets comparatively uncommon, no doubt from the fact that most of the wounds were received during rapid advances. There has been little deformity of the bullets met with, except where they struck stones before entering, and wounds of the soft parts have been, as a rule, simple tracks, with but little difference between the aperture of entry and that of exit, and the wounds of great vessels have been very limited in number. He thinks that the wounds of the individual nerves will be a great feature of the campaign, while fractures are for the most part transverse, or the bones are tunnelled. Joint perforations are common, especially of the knee; wounds of the head are proportionately limited in number, while those of the neck have been very common, as have perforating wounds of the chest. Those of the extremities, especially the upper part of the lower, continue to be much in evidence. The *Journal* also announces that four additional consulting surgeons have been appointed: Sir William Stokes, Mr. Watson Cheyne, Mr. G. L. Cheatle, and Mr. Kendal Franks. The first named was to leave for the Cape the 30th ult. In the *Lancet* for the same date, the special correspondent writing from Wynberg, under date of Dec. 12, 1899, considers the cases in the No. 2 General Hospital, which has now been established at Wynberg, adjacent to No. 1, a description of which was given in these columns last week. He notes that particularly among the Highland regiments spinal wounds have been most frequent, probably from the fact that their kilts afford a target when the men are lying down. No. 3 General Hospital is to be established at Rondebosch, about four miles from Nos. 1 and 2, between Wynberg and Cape Town. When this is complete the three will provide accommodations for upward of 1600 patients. He condemns the action of the Boers in throwing their dead into the Modder River after recent engagements, as this source affords water-supply for several townships and villages, and the practice is contrary to all rules of civilized warfare. Sir John Furley has also embarked for the seat of war, to be connected with the ambulance service. (*Lancet*, January 6).

PENNSYLVANIA.

DR. A. F. BRONSON, Girardville, has been appointed surgeon with the rank of first lieutenant, in the 8th Regiment, P. N. G.

DEPUTY U. S. Collector C. W. Evans recently seized 100 pounds of oleomargarin sold as butter by a resident in Pottsville. The seller was also fined $200.

AT A meeting of the Directors of the Lancaster General Hospital, it was announced that $5000 had been given to that institution by a friend living in Philadelphia, but whose name for the present had been withheld.

THE REPORT of the Germantown Hospital announces that during the year the cases treated numbered 14,355, as against 7917 the previous year. In other words, 81 per cent. increase was noted. Two new clinical rooms have been added, and the staff has been reorganized. During the year the total expenses were $34,800, and the income $28,600.

IT IS said that Frank Martsolf and wife, of New Brighton, have been for several years believers in "Christian Science," and are opposed to the administration of drugs and the care of doctors. Diphtheria in a very malignant form attacked their three children, two of whom are now dead, while the father and one child are at the point of death from the same disease.

POLLUTION OF RIVERS.

The question of the pollution of the rivers of Pennsylvania, including the Schuylkill at Philadelphia, seems to be a very large one. The State Board of Health has for many months tried to remedy the matter, but it appears without avail. As is well known, there is no national health officer to look after affairs of this kind, and the State Board is waiting to see what will become of the bill recently introduced in Congress providing for a United States Commission to investigate the pollution of streams. Attention is directed to the fact that Congress recognizes its responsibility for the condition of inland waters, and

that it might also look after that used for drinking water. It is therefore proposed to place matters under Federal control should this bill become a law.

Philadelphia.

DRS. W. W. KEEN, John H. Musser, Charles P. Noble, John B. Deaver and Alfred Stengel were in attendance at the meeting of the Berks County Medical Society, held in Reading, January 9.

THE BOARD of Charities and Correction has appointed Dr. H. Augustus Wilson to the position of orthopedic surgeon to the Philadelphia (Blockley) Hospital.

NORTHWEST MEDICAL SOCIETY.

The meetings of this society are held the first Tuesday of each month. The officers elected at the annual meeting, January 3, are: president, S. P. Gerhard; vice-president, I. M. Koch; secretary, William Egbert Robertson; treasurer, Hugh Hanna.

ALUMNI SOCIETY OF MEDICAL DEPARTMENT OF UNIVERSITY OF PENNSYLVANIA.

During the past five years, the Executive Committee of this Society has been constantly gathering data for the forthcoming matriculate catalogue. Further contributions are still desired, especially biographies of Samuel Duffield of Philadelphia, Humphry Fullerton of Lancaster, Pa., David Jackson of Chester, Pa., and Jonathan Potts of Philadelphia, all of the first graduating class of 1768. The Society has published a list of graduates in the army and navy in the Spanish War, also of the deaths of alumni during the year 1898 and six months of 1899.

PHILADELPHIA POLYCLINIC.

The medical staff of the hospital now numbers 150 teachers and assistants. The reports show that 85,584 visits to the dispensary were made during the past year, while the number of accident cases increased 1883 over the previous year. The following officers were elected: president, William E. Donovan; vice-president, William N. Ashman; secretary, Franklin B. Kirkbride; treasurer, J. E. Sterrett.

PHYSICIAN FINED.

Recently a physician was subpenaed to testify in the case of a boy who had "stumped" his toe and was subsequently taken to the receiving ward of a certain hospital. Suit was brought against a man who had kicked the boy, and so the attendance of the physician was desired. On failing to appear at the proper time the judge fined him $20 and costs.

BOGUS INSPECTOR.

Within the past few days a bogus medical inspector has come to grief. A man called at a private house and told the landlady that he had been sent by the Board of Health to inspect the cellar. On being requested to show his authority the man became angry, and before he could make off the husband appeared and took him to the proper authorities, where he was put under $600 bail.

REPORT OF GERMAN HOSPITAL.

The annual report of this hospital shows 2890 patients admitted during the year, 163 remaining on Dec. 31, 1899. The dispensary visits numbered 37,071, of which 21,274 were surgical cases. During the year 806 ambulance calls were made. At the Mary J. Drexel Home, which is a separate department of this hospital, 5797 dispensary patients received treatment, and 382 were admitted to the home. The total receipts for the year were $85,142, and the expenses $85,078.

MORTALITY STATISTICS.

The number of deaths during the week just closed was 504, a decrease of 9 over the previous week, and of 38 over the corresponding period of last year. The principal causes of death were: apoplexy, 19; nephritis, 35; cancer, 1; tuberculosis, 55; heart disease, 38; influenza, 4; pneumonia, 82; peritonitis, 13; appendicitis, 2; poisoning, 3; septicemia, 3; suicide, 2.

CORONER'S REPORT.

The annual report of the coroner shows that during the past year 2559 inquests were held in this city, 1636 males and 923 females, an increase of 69 over the previous year. Some of the principal causes of death were: burns or scalds, 149; heart disease, 211; tetanus, 20; electric shocks, 6; homicides, 26; suicides, 182; poisoned, 68; alcoholism, 44. The Ladies Aid Society of the Presbyterian Hospital has announced that the sum of $4000 has already been raised toward the founding of the third children's bed, leaving only $1000 yet to be collected.

SCHOOL INSPECTION.

Like every other good innovation looking to the interest of the public health, some opposition has become manifest in regard to the inspection by physicians of the different public schools of Philadelphia. Until the method has proven to be useful, and until the people are sufficiently instructed as to the objects of such a plan, complaints from various sources will doubtless be heard on many sides. Already some outspoken words have been made public to the effect that some parents will not consent to have their children "examined" by a strange doctor. The movement is appreciated, however, by the sensible people, who in the end will always prevail.

SUIT FOR INSURANCE.

The widow of Dr. Orange W. Braymer entered suit against the Provident Mutual Accident Company of this city to recover $5000 alleged to be due on an accident policy. It was stated that Dr. Braymer took out a policy with the above-named company on July 5, 1895, and made all payments until the time of his death, Jan. 9, 1898. He was performing an operation on January 3, and inoculated a slight cut. Septicemia developed and he died six days later. The jury rendered a verdict of $5475 for the plaintiff.

NEW YORK.

GOVERNOR ROOSEVELT has appointed Dr. George Elmer Graham, Albany, on the Board of Managers of the Craig Colony for Epileptics.

F. J. H. KRACKE, assistant commissioner for the Eastern division of the State of New York, states in his annual report, which has just been submitted to the legislature, that the past year has been one of marked activity in the detection of food adulteration, 220 violations of the law having been successfully prosecuted.

New York City.

DR. JAMES W. MCLANE, dean of the faculty and emeritus professor of obstetrics in the medical department of Columbia University, was elected a vice-president of the Union League Club, at the annual election held January 11.

THE HOSPITAL Saturday and Sunday Association announces that there is every indication that the collection this season will be the largest ever obtained. The Woman's Auxiliary is especially active, the ladies having determined to raise $10,000.

COMMISSIONER of Charities Keller has dismissed twelve physicians from the staff of the Metropolitan Hospital, who, because of differences with the superintendent, are said to have hanged him in effigy, using a cadaver for the purpose.

ASSEMBLYMAN T. P. SULLIVAN has introduced a new cigarette bill into the legislature. It requires dealers to obtain a tax certificate, signed by five reputable citizens of the locality, and take oath that the cigarettes do not contain injurious drugs or narcotics. The fee for this is $50. The penalty is a fine of $50 or imprisonment for sixty days.

AN UNFORTUNATE JUDICIAL DECISION.

in this case by the jurists to avoid bias, and then follows this: "Yet it is our imperious duty to close our eyes to questions of policy and personal friendships and simply decide the question before us without any regard to whom it will affect." The attorney-general purposes to move for a reargument.

MARYLAND.

Baltimore.

DR. WILLIAM WHITRIDGE WILLIAMS has been appointed assistant in the Johns Hopkins Pathological Laboratory.

DRS. E. A. MUNOZ, H. M. Bagley and H. Baxley have been re-elected physicians to the Baltimore General Dispensary.

DR. JOHN D. BLAKE, professor of surgery in Baltimore Medical College, has been elected president of the Crescent (Dem.) Club.

DR. S. GRIFFITH DAVIS, assistant-surgeon of the Fifth Maryland Regiment, has been elected adjunct professor of operative surgery in the Woman's Medical College.

DRS. J. H. M. KNOX, J. M. Lazear, Samuel Armburg and Flora Pollack have been appointed on the resident staff of physicians in the dispensary of the Johns Hopkins Hospital.

DR. WILLIAM H. WELCH has been elected president of the State Board of Health, vice Dr. S. C. DeKraft, who is now a surgeon with the army in the Philippines.

MESSRS. JOHN OCHSNER, L. K. Karsted and G. K. Wright, graduates respectively of Leland Stanford, Junior, University, the University of Wisconsin and the University of Michigan, have been appointed assistant demonstrators of the Johns Hopkins Medical School.

HERETOFORE the night watchman at the City Hall Annex of the Health Department has received diphtheria culture-tubes and given antitoxin at all hours of the night. Hereafter culture-tubes will have to be left at the bacteriologic laboratory by 6 p.m. Antitoxin will be given out at the private office of the health commissioner until 11 p.m.

AT THE obstetric ward of the Johns Hopkins Hospital, to avoid mistake by frequent change of nurses, each baby is tagged. On a small square of waterproof adhesive plaster is written the baby's name, and the plaster is then stuck to the baby's back between the scapulæ. The daily baths do not affect it and it is readily pulled off when the child is taken away.

WITH THE appropriation made by the city, three summer bathing stations have been maintained and plans are being prepared for keeping the baths open all the year. Through the gifts of Mr. Henry Walters—two lots in the eastern part of the city, valued at $50,000—the Walters Public Baths are now being erected. The first of these two indoor bath-houses will be opened about March 1.

MORTALITY STATISTICS.

For the week ended January 7, there were 212 deaths in Baltimore, the death-rate being 20.27 per 1000, viz., white 18.08, colored 34. The deaths were 108 males and 95 females. From diphtheria there were 68 deaths; measles, 52; mumps, 2; scarlet fever and typhoid fever, each 7; whooping-cough, 2; Bright's disease, 13; cancer, 6; influenza, 3; croup, 1; pulmonary tuberculosis, 18; burns, 2; railway accidents, 1; asphyxiation, 1; hot liquid scalding, 1; drowning, 1. The number of births reported was 692.

MARYLAND HOSPITAL FOR INSANE.

The 102d annual report of the Maryland Hospital for the Insane shows receipts of $149,058, and disbursements of $140,040. The former were the state appropriation, Baltimore's payment for city patients and payments by sundry counties and pay patients. The number of patients admitted during the year was 80; in the hospital, Nov. 1, 1899, 535—279 males and 256 females. Of 36 discharges, 21 had recovered and 4 were improved; 43 died. Extensive improvements were made during the year.

THE MILK SUPPLY

The United Milk Producers' Association of Baltimore, composed of farmers and milk producers, and intended to furnish pure milk to consumers in this city, began business on the 15th inst. The capital stock is $200,000. It is claimed that there is much adulteration at present, and that at present prices there is no profit to the consumers. The producers are now receiving only 12 to 13 cents a gallon, and the city test requires 3.5 per cent. of butter, which means about 12 per cent. of cream. It is proposed to increase the per cent. of cream to 16 and upward, and to charge 16 to 18 cents a gallon for the milk. About 25,000 gallons of milk are received daily in this city.

HOSPITAL FOR CONSUMPTIVES.

M. B. F. Newcomer, who gave $10,000 to the Hospital for Consumptives last summer, has offered another $10,000 provided a like amount is raised. The hospital is located in the suburbs and has fifteen acres of land. An annex has just been built, with a number of bathrooms and other conveniences. The management intends building cottages on plans similar to institutions in the Adirondacks and elsewhere. The report shows 41 cases treated during the year, of which 16 left in an improved condition; in 5 the disease was arrested, there are 11 now under treatment. In addition to the first gift of Mr. Newcomer, $4500 has been received on account of the building fund and toward the general expense, and $1500 is appropriated annually by the city.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 6 shows the total number of deaths to have been 117, of which 75 were white and 42 negroes. The principal causes were heart and nervous diseases. There were 53 cases of diphtheria, 98 of scarlet fever and 4 of smallpox under treatment at the close of the week.

Washington.

AT THE 309th meeting of the Washington Obstetrical and Gynecological Society, held at the residence of Dr. Cook, Dr. Ballock read an essay entitled "Hernia in Children."

CASUALTY HOSPITAL.

At the recent meeting of the Board of Directors of the Eastern Dispensary and Casualty Hospital, the report of the staff for the past month showed that 741 cases had been treated, of which number 195 were emergency cases. The hospital is doing a good work and generally extending its scope, and expects shortly to reconstruct the present building and equip it with every modern surgical appliance. Its staff and directorate include many of Washington's best citizens and most prominent physicians, but their value to the community is greatly lessened by the lack of sufficient Congressional appropriation.

DENTIST FOR THE ARMY.

Mr. Otey of Virginia has introduced a bill in the House of Representatives (H.R. 972), which provides that the surgeon-general of the army, with the approval of the secretary of war, shall employ and appoint dental surgeons to serve the officers and enlisted men of the regular and volunteer army in the proportion of one dental surgeon to every 1000 of the army. These surgeons shall be employed as contract dental surgeons under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory examination.

DR. SAMUEL C. BUSEY.

The profession recently learned with regret that the president of the Washington Medical Society, Dr. Samuel C. Busey, would not accept re-election to office for the ensuing year. Dr. Busey has served the Society as its president for six years, and feared, on account of failing health, that he would not be able to devote the time and labor which so important a position requires. To Dr. Busey's management and efforts are largely due the recent good work of the Society, and the passage by Congress of many legislative acts of great importance to the local profession. The Society has acted wisely in calling to the presidency Dr. Acker, who has the skill and ability to continue the good work of his predecessor.

OHIO.

Cincinnati.

HEALTH Officer Tenney is preparing a bill for presentation to the legislature to compel barbers to sterilize their tools.

DR. J. C. CULBERTSON, proprietor of the *Lancet-Clinic*, was elected a member of the American Social Science Association.

DR. S. P. KRAMER, late major and surgeon, U. S. V., and Dr.

D. C. Handley, have established a private hospital, exclusively for surgical cases.

THE PUBLIC library is in daily communication with the Health Department, and no books will be loaned where infectious cases are reported, and no books will be received from infected houses, except through the health officers.

THE REPORT of the Bureau of Infectious and Contagious Diseases of the Health Department showed, for December, 1899, 101 cases, against 191 for the corresponding month of 1898. The prevalence of influenza during 1898 is assigned as the cause of the difference.

BETHESDA HOSPITAL ASSOCIATION.

At the annual meeting of the Board of Trustees of the Bethesda Hospital and Deaconess' Home Association, reports were read showing the increased prosperity of this Association. It was announced that the hospital had received a donation of $1000 from Mr. Frank Kreihler of Pennsylvania. The building fund of the hospital is $15,000 in debt, but $5000 of this is at hand and the board hopes to collect the remaining $10,000 by July 1.

Cleveland.

THE ANNUAL report of St. Alexis Hospital shows that 1997 patients were received during the year, and that 1762 were discharged as cured.

ILLINOIS.

THE HEALTH authorities fear a general spread of smallpox throughout the state, as the disease was prevalent for a long time without proper measures being instituted to check its progress. Fresh cases are being reported daily.

Chicago.

DR. J. B. HERRICK has returned from Europe.

THE GREAT sanitary drainage canal was opened January 17.

A BANQUET was given by the Medical Women's Club, January 16.

THE ANNUAL report of St. Anthony's shows that 820 patients were treated in that institution during the past year.

DR. WILLIAM CUTHBERTSON, M.D., has been appointed attending gynecologist on the staff of St. Luke's Hospital.

THE QUARTERLY examinations of the Illinois State Board of Health were held January 16; 11 physicians, 18 osteopaths and 14 midwives were examined.

AN EXAMINATION by the coroner developed the fact that a two year-old child died from measles while under the care of a disciple of Dowie.

THE RECEIPTS from the ball given by the Young Hebrew Charity Association, January 9, were nearly $33,000. This sum will be divided among the hospitals and benevolent societies.

SCHOOL INSPECTION.

The medical inspection of schools, inaugurated by the Board of Education, resulted in the examination of 3045 pupils during the past week, of whom 323 were excluded from schools because of the danger of infecting the other pupils.

SUIT FOR LOSS OF EYESIGHT.

An employee has begun suit for $10,000 against a local brewing company for the loss of his eyesight. His work consisted in shellacing barrels and kegs, and it is asserted that the wood alcohol fumes gradually destroyed his sight.

PROVIDENT HOSPITAL.

The Esther Freer Hall, the gift of Nathan M. Freer to Provident Hospital, is nearing completion and will be dedicated in February. The structure is a four-story building, to cost nearly $30,000, and will be used as a school and dormitory for the nurses. An addition is now being made to the hospital proper, which will cost $18,000.

MORTALITY STATISTICS.

The total mortality for the week ended January 13 was 7 less than that of the week preceding, and 46 less than the corresponding week of 1899; 129 of these deaths were from pneumonia and bronchitis, or slightly more than 23 per cent. of the total. Compared with the corresponding week of 1899, this is a slight reduction, as the mortality at that time was 127 deaths from pneumonia and 31 from bronchitis, a total of 158. There was but 1 death from la grippe, as against 13 deaths during the corresponding period of 1899. There has been a slight decrease of diphtheria during the past week.

KENTUCKY.

KENTUCKY COLONY FOR EPILEPTICS.

Senator Alexander of Louisville has introduced a bill in the legislature providing for an appropriation of $50,000 to establish a colony of epileptics, in Jefferson County, to be connected with the Central Insane Asylum at Lakeland, near Louisville. This bill should receive the hearty support of the medical profession throughout the state.

Louisville.

THE GOLDEN anniversary of the Kentucky School of Medicine, Louisville, was celebrated with appropriate exercises, January 2.

THE MEDICAL COLLEGES.

The spring and summer medical colleges began their annual session on January 2, all opening with large classes. Kentucky University's medical department holds its first session in its new building, acquired during the summer of 1899.

HOME FOR AGED AND INFIRM.

The report of the superintendent of the Home of the Aged and Infirm has just been presented to the Board of Safety. It shows that the inmates are supported at a cost of 12½ cents a day, there being 356 inmates during 1899. The total expenses were $17,315. The state contributes a sum, yearly, for the maintenance of pauper idiots. During the year 27 patients died, mostly from senility; the oldest that died claimed to be 118 years of age.

REPORT OF ERUPTIVE HOSPITAL.

Dr. Harris Kelly, in his report of the Eruptive Hospital, shows 548 cases treated during the year, with 6 deaths. There were 91 white and 157 colored patients. The epidemic of smallpox began Dec. 4, 1898, lasting until August 29, 1899. There were two cases of scarlatina, six of erysipelas, and 1 of diphtheria, with no deaths.

WISCONSIN.

Milwaukee.

FIRE, THE second in ten days and due to a defective furnace, damaged the Wisconsin General Hospital, in this city, January 10. The loss was $200.

THE CHILDREN'S Free Hospital will receive about $1000 as its share from the receipts of the Twentieth Century Festival recently held in this city.

THE ANNUAL report of the Milwaukee Hospital for the Insane shows that 583 patients were treated during the year. The percentage of recoveries was 33, and the death-rate 7 per cent. The improvements during the year amounted to $3807.

Correspondence.

Mercurial Ointment in Erysipelas.

WASHINGTON, D.C., Jan. 13, 1900.

To the Editor:—Referring to the paragraph relative to Demattei's observations on the efficacy of mercurials in the treatment of erysipelas (THE JOURNAL, January 13, p. 1101), I wish to say that for many years I have used mercurial ointments for the treatment of this disease, successfully. I recall one case, about twelve years ago, in which I applied the white precipitate ointment, and it healed the disease so quickly that the patient's friends became alarmed, declaring the doctor had driven the *disease in*, consequently another doctor was substituted to draw it out. I give this fact for the benefit of Demattei, hoping he may not be subjected to a like experience.

Very respectfully,

JOSEPH T. HOWARD, M.D.

Canada.

(From Our Regular Correspondent.)

TORONTO, Jan. 15, 1900.

SURG.-LIEUT.-COL. WORTHINGTON, [illegible] Surgeon-Major Dull, Kingston, Ont., [illegible] medical affairs of the second Canadian contingent.

SURG.-LIEUT.-COL. EYRESON, Toronto, [illegible] of the Red Cross Association [illegible] professional duties either on the [illegible] at Cape Town.

THE DOCTORS of Victoria, B. C., have formed a local medical association. One of the most important articles of their constitution is that its members shall not act as lodge physicians.

KAMLOOPS, B. C., still continues to be very much exercised over its general hospital. At a public meeting a short time ago, Dr. Proctor presented the financial report and, after hearing it, the meeting passed a unanimous resolution asking for government assistance in order to support the town in carrying on the institution.

THE GENERAL health of Vancouver, B. C., has been good the past year. The city has three well-equipped and properly maintained hospitals, and has been entirely free from epidemics during the year. Infectious diseases during 1899: scarlet fever, 34; diphtheria, 7; typhoid fever, 40; measles, 90; rothelia, 4; whooping-cough, 17.

SCHOOL FOR THE BLIND.

A new and spacious school for the blind has been erected in Montreal, and is to be conducted by the Sisters of Nazareth. Owing to the lack of space in the old class-rooms of the Nazareth Asylum for the Blind, so many children were unable to gain admittance to the classes that the sisters, in order to supply this want, have erected this modern building, said to be a model of sanitation destined to prove a great benefit to the blind of the city of Montreal.

TRANSPORTATION OF THE SECOND CANADIAN CONTINGENT.

A number of the crew of the steamship *Montezuma*, at Halifax, have developed typhoid fever, and an investigation into the sanitary condition of the vessel has been ordered, as she was to sail for South Africa with Canadian troops. It is believed that the disease has arisen from the inferior quality of water taken on board at New Orleans, at which port the vessel last touched on her return voyage to Canada. If it turns out that such is the case, Dr. Montizambert is satisfied that by properly cleansing the tanks the danger will be removed.

HEALTH OF MEN ON PUBLIC WORKS.

During the last session of the Dominion Parliament an act was passed giving the government authority to provide, by regulations by the Governor-in-Council, for the proper safeguarding of the health and well-being of workingmen employed on public works. This act confers extensive powers on the government in the making of regulations regarding the medical treatment, sanitary inspection and other matters relating to the proper treatment of these men. The Minister of the Interior is now pressing on his colleagues the desirablity of putting this act in force by establishing these regulations; and it is understood that a very complete set of rules is being prepared, providing for inspectors whose duty it shall be to see that the regulations are properly carried out.

CARE OF THE EYES.

The assistant ophthalmologist of the Royal Victoria Hospital, Montreal, Dr. W. G. M. Byers, delivered a public lecture last week on this topic. After elaborating a set of rules for the guidance of his auditors, he spoke of the laxity of the Dominion Government in regard to the admission of immigrants suffering from granular ophthalmia, and stated that if care were not taken, the question of trachoma schools would have to be faced at no very distant date. He further spoke of the recent renovation of the Montreal General Hospital, which had placed that institution on the most approved modern footing, and referred to the princely generosity of Lords Strathcona and Mount Stephen, which had added greatly to the facilities in that institution, for the sick poor obtaining relief.

TORONTO ORTHOPEDIC HOSPITAL.

During the fifteen months of its existence—July, 1898, to Sept. 30, 1899—there have been 172 admissions and 165 discharges. The collective days' stay at the hospital has been 3306, and the average days' stay per patient 19.22. Of the 172 patients admitted, 100 were under, and 72 over, 14 years of age; 98 were male and 74 female. Of surgical operations performed there have been 174, this number including only those which were sufficiently severe to require an anesthetic; only one death has occurred. There is a training school for nurses and an out-door clinic. The Toronto Orthopedic Hospital is the only institution in Canada which devotes its work exclusively to the treatment of the lame, crippled and deformed; although in Toronto the Victoria Hospital for Sick Children has done great and good work along these lines. Of the 174 patients admitted, 44 resided in Toronto, the remainder coming from the towns, cities and villages of Canada, and in a few instances from across the border. All the apparatus for mechanical treatment is directly under the supervision of the surgeons and is manufactured on the premises; and the hospital is provided with a gymnasium.

Deaths and Obituaries.

JOSEPH C. MULHALL, M.D., St. Louis, Mo., died January 11. Driven to desperation by a disease from which he did not expect to recover, he shot himself, causing instant death. He was a native of St. Louis, and a graduate of the St. Louis University. He graduated in medicine from the St. Louis Medical College in 1873, and then went to Europe for further study. He received the L.R.C.S., Dublin, in 1874. After studying for several years on the Continent, he returned to St. Louis and began to practice, choosing diseases of the ear, nose and throat as his specialty. He was professor of diseases of the throat and chest and of climatology in Beaumont Medical College, and professor of physical diagnosis in the Alexian Brothers' Hospital.

THOMAS KING CARROLL, M.D., died near Cambridge, Md., January 9, aged 78. He was the son of Governor Thomas King Carroll, and was born at the ancestral home, "Kingston Hall," Somerset County. He began the study of medicine, after graduating at Washington Academy, Princess Anne, in the office of Dr. Samuel Handy, and later of Dr. Samuel Chew. He took his M.D. degree at the University of Maryland in 1846, settled in Dorchester County, was a member of the legislature from 1860, for two terms, and member of the state senate in 1863. He was in active practice over 52 years. He was consulting physician to the Cambridge Hospital (United Charities Hospital).

DR. ALBERT EDWARD HOADLEY, of Chicago, died January 16. He was born at Chenango Forks, N.Y., in 1847, and was graduated from the Chicago Medical College in 1872. He immediately commenced the practice of medicine in Chicago, where he remained until his death. He was professor of orthopedics and surgical diseases of the joints in the College of Physicians and Surgeons and in the Chicago Policlinic. He was the author of a number of surgical papers and a member of several medical societies.

CHARLES A. SIEGFRIED, M.D., Jefferson, 1872, died at Newport, R.I., January 15. He was in charge of the naval hospital at Coaster's Harbor Island. During the Spanish-American War he was in charge of the naval hospital at Key West, and was later appointed to represent the Medical Corps of the Navy at the Paris Exposition. His remains were interred at Peoria, Ill.

JOSEPH EDGAR ARROWSMITH, M.D., died in Keyport, N. J., January 3, aged 77 years. He was born near Middletown, N. J., and after his graduation from the New York University Medical College, in 1844, he settled at once in Keyport, where he remained in active practice until his retirement not many years ago. During the Civil War he was a widely known medical examiner.

L. LEO MINGLE, M.D., Reading, Pa., died January 9. The Doctor was born in 1839, attended Jefferson Medical College, and Long Island Hospital Medical College, graduating from the former in 1866. During the latter part of the Civil War he served in the emergency service, in Company G, 48th Regiment, Pa. Vol. Inf.

W. C. MCFETRIDGE, M.D., Philadelphia, died January 3, aged 35 years. He was a graduate of the medical department of the University of Pennsylvania, class of 1886, and was a member of the Philadelphia County Medical Society and the Philadelphia Medical Club.

WM. R. HARNAN, M.D., New Orleans, La., aged 38 years, and a graduate of the medical department of Tulane University, class of 1887, died the 27th ult. From 1892 to 1896 he was secretary of the Louisiana State Board of Health.

JOHN S. COOK, Hackettstown, N. J., aged 76 years, died January 1. He was a graduate of the medical department of the

University of Pennsylvania, class of 1850, and was president of the New Jersey State Medical Society in 1879.

WILLIAM A. CANTRELL, M.D., Philadelphia, died January 7, aged 58 years. He was a graduate of Jefferson Medical College, class of 1862, and later was surgeon in the United States Army.

WICKLIFFE C. SMITH, M.D., Delphi, Ind., aged 48 years, was killed by a train on the 29th ult. During the recent war he served as surgeon in the 161st volunteer infantry.

CHARLES W. INGRAHAM, M.D., Binghamton, N. Y., aged 29 years, a graduate of the Medical College of the University of New York, class of 1892, died January 3.

J. B. KREIDER, M.D., Bucyrus, Ohio, died recently, aged 50 years. He was a graduate of the medical department of the University of Pennsylvania, class of 1866.

W. C. HALL, M.D., Franklin, Ind., aged 69 years, died Christmas evening. During the Civil War he served in the 82d Indiana and the 17th Ohio, being surgeon in the latter regiment.

JOHN FRANCIS BOURNES, M.D., Norristown, Pa., a graduate of the medical department of the University of Pennsylvania, died on the 21st ult., aged 89 years.

S. C. RICE, M.D., Disco, Ill., died on the 29th ult., from injuries received from a flying bolt in an accident to a fodder cutter.

JOHN M. TURNER, M.D., Gardiner, Me., aged 46 years, and a graduate of Dartmouth Medical College, class of 1881, died on the 24th ult.

EDWARD BATWELL, M.D., Ypsilanti, Mich., died the 27th ult., at the age of 71. During the Civil War he served in the 14th Michigan Infantry.

J. R. FINNEY, M.D., Elbowoods, N. D., for some years the agency physician at Fort Berthold, died on the 27th ult.

IRWIN R. FISHER, M.D., Harlingen, N. J., coroner of Somerset County, was found dead the 31st ult.

P. H. GARRETSON, M.D., Peoria, Ill., a graduate of the St. Louis Medical College, died at his home January 8.

GEORGE R. HALL, M.D., Brush Hill Road, Mass., a graduate of Harvard Medical College, class of 1842, died Dec. 24, 1899, aged 78 years.

CHARLES KINGSLEY, M.D., Marlboro, Mass., aged 30 years, died the 29th ult. He was a graduate of Jefferson Medical College, Philadelphia.

S. F. BOWERS, M.D., Fond-du-lac, Wis., an ex-mayor of that town, died January 2, aged 63 years.

JOHN H. COKER, M.D., New Orleans, La., said to be the first negro physician to practice in that city, died January 3.

We note also the following deaths:

OTHO AUSTIN, M.D., Oakridge, Miss., January 9.

JOHN CLARK CLEARY, M.D., died at Port Chester, N. Y., January 14, aged 31 years.

R. M. TUCKER, M.D., Helena, Ala., January 3.

Association News.

Committee on Pathologic Exhibit.—The following unofficial committee on the pathologic exhibit has been appointed. Dr. Joseph Stokes, Moorestown, N. J., chairman; Dr. Alfred Stengel, Philadelphia, and Dr. Frank B. Wynn, Indianapolis, Ind., secretary.

Section on Physiology and Dietetics.—*The officers of this* Section request such members of the ASSOCIATION as desire to read papers or present specimens or matters of interest in the department of physiology and dietetics, to make early application for a place on the program. The meeting of the Section at the last session was notable for the excellence of its original papers. It is expected that the Atlantic City meeting of this Section will be on the same high order as last year. The program will be open until the middle of February. R. Harvey Cook, Oxford, Ohio, is secretary.

Section on Ophthalmology.—The following is the preliminary program of the Section on Ophthalmology of the AMERICAN MEDICAL ASSOCIATION, for the meeting at Atlantic City, N. J., June 5-8, 1900:

TUESDAY, JUNE 5—AFTERNOON SESSION.

1. Address of Chairman. H. V. Würdemann, Milwaukee, Wis.

2. Treatment of Conical Cornea. *a.* Optical Therapeutics. Swan M. Burnett, Washington, D. C. *b.* Operations. Robert Sattler, Cincinnati, Ohio.

Discussion opened by Herman Knapp, New York City, F. C. Hotz, Chicago, Samuel D. Risley, Philadelphia (to be invited).

Volunteer Papers.

WEDNESDAY, JUNE 6—MORNING SESSION.

3. Exhibition of Specimens and New Instruments. *a.* A Double Trial Lens to Balance the Eyes in Presbyopia. Mark D. Stevenson, Akron, Ohio. *b.* Other Demonstrations.

Volunteer Papers.

AFTERNOON SESSION.

4. Relation of Ocular Diseases and Visual Defects to Vocations. *a.* What Amount of Visual Defect should Disqualify in Railroad and Steamship Service. Frank Allport, Chicago. *b.* Estimation of the Amount of Injury to the Business Capacity of the Individual from Partial or Complete Loss of Vision. Adolf Alt, St. Louis, Mo.

Discussion to be opened by Wm. Thompson, Philadelphia, and C. H. Williams, Boston.

THURSDAY, JUNE 7—MORNING SESSION.

5. Exhibition of Specimens and New Instruments. *a.* Demonstrations of Sections of an Unusual Intraocular Growth. Wilbur P. Marple, New York City. *b.* Other Demonstrations and Instruments.

Volunteer Papers.

AFTERNOON SESSION.

6. The Rational Use and Limitations of Therapeutic Measures Intended to Promote the Absorption of Exudates Within the Eyeball. *a.* Medicinal Measures. Randolph Brunson, Hot Springs, Ark. *b.* Local Therapeutics. M. Uribe Troncoso, Mexico City, Mex. *c.* Present Status and Value of Massage of the Eyeball with the Consideration, What Diseases of the Eye May Be Favorably Influenced by this Therapeutic Measure and What Are the Best Means of Its Application. Casey A. Wood, Chicago.

Discussion opened by Geo. M. Gould, Philadelphia; Robert L. Randolph, Baltimore, Md., and J. Santos Fernandez, Havana, Cuba. Volunteer Papers.

FRIDAY, JUNE 8—MORNING SESSION.

Exhibition of Specimens and New Instruments.

7. Treatment of Immature Cataract with Special Reference to the Rate of Development and Such Measures as May Check It. G. E. deSchweinitz, Philadelphia.

Discussion opened by John E. Weeks, New York City, and Abner W. Calhoun, Atlanta, Ga.

AFTERNOON SESSION.

Volunteer Papers.

Titles of Volunteer Papers Accepted to Date.

1. Secondary Operations on Capsular Membranes. Peter A. Callan, New York City.

2. Lessons Learned from a First Series of 100 Cataract Extractions. F. T. Rogers, Providence, R. I.

3. Glioma of the Retina. G. A. Sulzer, Portsmouth, N. H.

4. Hemorrhagic Glaucoma. W. C. Posey, Philadelphia.

5. Will Relate to Variations in the Size of the Pupil. Lucien Howe, Buffalo, N. Y.

6. Paresis of External Recti Associated with Irregular Tabes. G. Oram Ring, Philadelphia.

7. Effects on the Eye of Flashes of Electric Light. Dunbar Roy, Atlanta, Ga.

8. Keratitis-Bullosa with Report of Case. E. O. Sisson, Keokuk, Iowa.

The officers of the Section request all ophthalmologists who intend contributing to the scientific program of the Section, by papers, exhibition of instruments or specimens, and all who purpose attendance on the meeting, to write at once, in order that places on the program, and hotel accommodations, may be reserved, and that an estimate of the probable attendance may be made at an early date. In regard to the program, address the secretary, Dr. Chas. F. Clark, 188 E. State St., Columbus, Ohio. For reservation of rooms, apply to the Chairman of the Committee on Arrangements, Dr. Philip Marvel, Atlantic City, N. J.

Book Notices.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT, VENEREAL AND SEXUAL DISEASES. A Text-book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphiology in the Medical Department of the State University of Illinois; Professor of Criminal Anthropology in the Kent College of Law; Surgeon-in-chief of the Genito-Urinary Department of the West Side Dispensary; Fellow of the Chicago Academy of Medicine; Fellow of the American Academy of Political and Social Science; Delegate from the United States to the International Congress for the Prevention of Syphilis and the Venereal Diseases, held at Brussels, Belgium, Sept. 5, 1899, etc. Illustrated with 233 engravings. Pages xvi—1024. Extra cloth, $5.00, net; sheep or half russia, $5.75, net. Philadelphia: The F. A. Davis Co., 1899.

"I have embraced the opportunity herein afforded me for airing a few heresies of my own," is the way the author puts it in his preface. But a hasty reading of his book fails to reveal any of these heresies. His views on certain subjects might have been considered radical at one time, but to-day, as expressed in the book before us, they will be generally indorsed as being in accord with modern practice and thought.

The first chapter, on "Genito-Urinary and Sexual Hygiene," covers the whole subject from normal urine to "sexual starvation"—and beyond. The author, in this chapter, takes the opportunity to give his views on a variety of questions relating to sexual hygiene, and these will be indorsed by most of his readers. He blames modern society for much of the sexual perversion of the day, and his views of marriage as a remedy for certain sexual troubles can be realized from the sentence: "Pure women should not be considered as remedial agents to be prescribed solely with regard to the interests of the consumer." Following this chapter there are four on the urine, in which are discussed uranalysis in its relation to surgery, hematuria, the relation of bacteria to genito-urinary infections, fevers associated with operations on, and disease or injury of, the genito-urinary organs. Two chapters are devoted to the anatomy and physiology, anomalous formations, and diseases of the penis. Diseases of the urethra, including gonorrhea and stricture, occupy three long chapters. The author takes rather strong views regarding gonorrhea as being the cause of pelvic diseases in women. "When freed from pathologic and anatomic errors, pelvic diseases are found to be dependent, in the majority of cases, if not all, upon tubal disease, and tubal disease is unquestionably almost always due to gonorrhea, and its congeners and derivatives." "Almost" is sometimes a handy word. Lydston quotes Nöeggrath, evidently with approval, when he alleges that eight out of every ten men have had gonorrhea. If this is true, then the "almost" is apropos. But is it true?

In Part V, consisting of seven chapters, the author gives us a brief, but classic, description of syphilis, including treatment. While believing in the germ origin of the disease, he does not regard the claims of Lustgarten as yet proved. Syphilis he thinks is a curable disease in a certain per cent. of cases, but he relies more on the judicious use of mercury and the iodids than on any of the newer remedies or combinations so persistently pushed forward. Six chapters are devoted to the diseases affecting sexual physiology. In that on "Diseases of the Sexual Function and Instinct," the author does not hesitate to express himself, though his views on some points may be considered a little radical. While believing that, from a sociologic standpoint, irrespective of arbitrary moral codes, monogamy is best adapted to our social necessities, he does not believe that it is in conformity with natural laws so far as the human race is concerned. The ultraconservative may not indorse this view, but all will agree with the following: "It is not so many years since such books, pictures, and plays as are tolerated to-day were tabooed. Latter-day art, literature, and stage furnish an atmosphere of sexual immorality, to which, sooner or later, every youth—male or female—is inevitably exposed. . . . Vice thinly veiled, or gilded over by the mawkish sentiment engendered by Trilby pink teas and yellow breakfasts, and apologized for by social faddists, is insidious and deadly." The foolishness of keeping the young in ignorance of sexual matters is emphasized, and the physician is rightfully blamed for his neglectfulness in this regard. Quack literature too often sounds the first warning the young man receives: but while the quack overdraws the evil, from purely mercenary motives, respectable physicians are inclined to the other extreme, and ignore the subject or pass it over as a matter of trivial importance.

The diseases of the prostate and seminal vesicles occupy five chapters, and four are devoted to diseases of the bladder. The chapter on urinary calculus is well illustrated, and the various operations given. Surgical affections of the kidneys and ureters are covered in three chapters. It would seem that now the kidney has assumed such an important place in surgery, the important operations on that organ might be left to works on that subject. The author has seen fit, however, to describe these operations more or less fully. The last five chapters of the book are on the diseases of the testis and spermatic cord.

On the whole the author has given us a reliable, comprehensive and practical text-book, and it will be a welcome addition to the special works on the subject treated. There is little to criticize, much to commend. It would not have detracted from its value if some of the padding in the way of reports of cases had been omitted. They are a useless encumbrance in the majority of instances, and this remark is not intended to be applied to the work before us only. Lydston's style of writing is a happy one, and it will not be surprising if the reader finds himself reading chapter after chapter when he intended to look up but a single point.

ENCYCLOPEDIA MEDICA. Under the general direction of Chalmers Watson, M.B., M.R.C.P.E. In twelve volumes. Vol. I. Abdomen to Bone. Price, $6 per volume. New York: Longmans, Green & Co. 1899.

The first volume of this pretentious, unique, and important work is before us, and the impression one receives in examining this initial number is that the work when completed will be one of the most valuable publications of its nature that has been attempted in many years, completely covering, as it does, the whole range of medicine and surgery. For this reason it would seem that the title is hardly a correct one, unless it be understood that the word "Medica" is to be used in its old and broad sense. It is an attempt to furnish an authoritative medical and surgical work complete in itself, concise, practical, modern and in such a manner that it can be easily referred to. As a rule, these large, many-volume works are not an advisable investment, for the reason that much money is locked up in a single work, which, in the rapid changes and progress of the day, soon becomes old. The publishers evidently appreciate this, for they propose to keep it up to date by the issue, from time to time, at a small cost, of supplemented volumes, and with them gummed notes to be pasted on the margins opposite the articles affected. The first volume contains about 580 pages, and includes subjects from "Abdomen" to "Bone." Many of the subjects are quite elaborately covered, although not more so than is necessary. The book is an English production, the contributors including the best writers of the profession in Great Britain. The subjects contained in this first volume are all treated in such a manner that a complete review of the knowledge of them is given, but in such a condensed way that space is economized without sacrificing the value of the article. At the end of each contribution which calls for such, a bibliography is given, which will aid those interested in getting the information necessary to a more complete investigation of the subject.

RECOLLECTIONS OF A REBEL SURGEON (and other stories) or in the Doctors' Sappy Days. By F. E. Daniels, M.D. Illustrated. Price, $1.10. Austin, Texas: Von Boeckman, Schutze & Company. 1899.

Through words spoken by an old Confederate surgeon, who is a myth, into a modern phonograph, which is also a myth, the editor of the *Texas Medical Journal* tells a lot of good stories in a capital manner. Many of these are of the old times, "befo' and durin' the wah," when the doctor was in his "sappy" days. They tell of surgery and surgeons before the words "antiseptic" or "aseptic" were heard of. Most of the stories are full of humor, many of pathos, and a very few are positively

sad. But all are good. They will make an excellent remedy for an attack of the blues. When one is tired and weary of life, two or three of these stories, taken on a full stomach—not too full—will remove that "tired feeling" immediately.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. Illustrated. Third Edition, Revised. Price, $3.50, net. Philadelphia: W. B. Saunders. 1900.

In the third edition of his book, which is slightly enlarged, Penrose has brought every subject up to date. It has proved to be one of the best works on the diseases of women for the general practitioner, in that minor gynecology is thoroughly covered and the needs of the non-specialists recognized. The illustrations are many, excellent, and useful, and the book as a whole is worthy of the highest commendation as a practical working guide, in a condensed form.

THE SCHOTT METHODS OF TREATMENT OF CHRONIC DISEASES OF THE HEART, WITH AN ACCOUNT OF THE NAUHEIM BATHS AND OF THE THERAPEUTIC EXERCISES. By W. Bezly Thorne, M.D., M.R.C.P. Illustrated. Third Edition. Philadelphia: P. Blakiston's Son & Co. 1899.

In this third edition, Dr. Bezley Thorne's little volume has been rearranged and two chapters added. One of these deals especially with conditions that should influence and modify the detail of the procedures, while the other gives instances of their application in various cardiac conditions, illustrated by sphygmographic tracings. Though the work is small, it has the advantage of a quite complete index.

Miscellany.

Dispensary-Abuse.—That the lay public has begun to realize the evils and the injustice of the dispensary-abuse is indicated by the following language that appears in the fortieth annual report of the German Hospital, Philadelphia, for the year 1899: "The abuses in the dispensaries continue, and are not only on the increase, but combined with insolence and arrogance of some of the applicants for help, who imagine that the city authorities furnish the means to support free dispensaries."

Not Counted Among the Able-Bodied.—The supreme court of North Carolina has decided that a statutory requirement of all able-bodied male persons between certain ages to work on the public roads is not a tax, but a duty, similar to service on the jury, in the militia, etc., and, being a duty, it holds, in State vs. Covington, that sickness causing inability to perform it is a full defense, as in the case of the other duties which the state may exact.

Metschnikoff's Cell Serum.—In one of the last *Annales de l'Institut Pasteur*, Metschnikoff announced the important fact that he has established that the mononuclear leucocytes or macrophages swallow *living* cells. He reported an interesting research which showed that these macrophages, in guinea-pigs, swallowed live spermatozoa, blood-corpuscles from the goose, etc., the tail of the spermatozoon still keeping up lively motion until it was also absorbed. The macrophages then soon left the peritoneal cavity, where the live cells had been injected, and passed into the omentum, lymphatic ganglia, spleen and liver, and thence into the blood, where they induced the production of a powerful and rapid cell-destroying substance specific for the leucocytes of the animal from which they were originally derived—spleens from rats, abdominal lymph glands from rabbits injected subcutaneously, etc. This agglutinating and hemolytic substance may be a product excreted by the macrophages at the close of their intracellular digestion. It was impossible, however, to produce an antileucocytic serum that would confine its action exclusively to the mononuclears. They were first affected, beoming transformed into transparent vesicles; the polynuclears then underwent the same transformation, and lastly the Mastzellen in their turn. The fact that the macrophages can devour living cells suggests that they play an important part in cellular atrophy. In atrophying morbid conditions of some of the vital organs, nerve centers, kidneys, liver, an accumulation of mononuclear phagocytes is noted, which become transformed into connective tissue, replacing the nobler element as the macrophages swallow everything in their reach incapable of defending itself against their voracity. This leads to the hypothesis that the cells must normally produce a certain substance which protects them against the macrophages. It is easy to conceive, therefore, that the cells of useless rudimentary organs may be able to defend themselves against the macrophages by this means, while others, really indispensable to the organism, may for some reason become deprived of this protecting substance and fall a prey to the macrophages. "We are justified in anticipating the day when medical art will actively and successfully intervene to maintain the integrity of the organism whose harmony has been disturbed by the preponderance of certain cellular elements such as the macrophages in atrophy, and various other elements in neoplastic affections." An antileucocyte serum or leucocidin which would restrict its action to a certain class of leucocytes would accomplish this. The problem can be solved in another way: by stimulating the nobler elements, the nerve cells, liver cells, etc., to spontaneously produce the protecting substance that defends them against the macrophages in youth and health. Metschnikoff is conducting special research in this line, and the announcements of the lay press that he has succeeded in producing a "long life serum" are founded on this research—which as yet is merely tentative. He concludes a recent article in the *Année Biologique* with the statement: "If the lost balance between the cellular elements could be re-established, then senile atrophy and certain other morbid changes would be arrested or attenuated. Old age would become more bearable, and the instinct of death, which is now usually lacking, would develop freely. Man has other resources than "natural selection" to assist development, and encouraged by the fact that human art has already surpassed Nature in the harmony of sounds, science should strive to establish harmony beyond what nature has accomplished, in the functions of the organism."

Queries and Minor Notes.

MEDICAL FACILITIES ABROAD.

SOUTH BOSTON, VA., Jan. 12, 1900.

To the Editor: Having decided to spend a part of the spring, summer, and fall in Paris, London, and Berlin, I would thank you very much for any information or literature bearing on the facilities, advantages, etc., of the various medical institutions, also of the various medical conventions that may meet during the spring or summer in any one of the above-mentioned cities, to which I might have access.—B. C. K.

ANSWER.—A book was published some years ago by Dr. Henry Hun, of Albany, N. Y., especially for Americans who wished to study medicine in Europe, but we think that it is now out of print. We know of no other work specially devoted to the subject. The following congresses are to be held in Paris this year: The Thirteenth International Medical Congress, August 2 to 9; Fourth International Congress of Dermatology, same date; Tenth International Congress of Hygiene and Demography, August 10 to 17; International Congress of Hypnotism, August 12 to 15; First International Congress of the Medical Press, July 26; and First International Congress of Medical Ethics, etc., July 23 to 28. The British Medical Association meets at Ipswich the first week in August. There are others of which we have not at hand the exact dates and places of session, such as the German Congress of Internal Medicine and Surgery, etc. There are facilities for clinical and other studies in all the larger cities of Europe. In London, in the Medical Graduates' College and Polyclinic, 22 Chenies Street, Gower Street, W. C., and in a similar institution in Edinburgh, will be found facilities for post-graduate work, although nothing in Europe will equal the post-graduate schools in this country.

JOURNALS ON GASTRO-INTESTINAL DISEASES.

TRACY, MINN., Jan. 5, 1900.

To the Editor.—What is the best German journal on gastro-intestinal diseases and on general internal medicine, and the best one in French on the same subjects? Yours very truly, C. J. H.

ANSWER.—If a general résumé of the literature of internal medicine is wanted, the *Centralblatt für Innere Medizin*, [illegible], which gives the abstracts of the leading German and [illegible] papers as they appear, would probably give the best satisfaction. The leading German journals on general medicine are probably the *Wochenschrift*, of Berlin, Vienna and Munich. There are [illegible] high-class publications that appear at regular intervals and contain elaborate memoirs, but these are [illegible]. It is still harder to name the leading French [illegible] two subjects. One of the leading Paris weeklies, the *Presse Médicale*, the *Gazette des Hôpitaux*, the *Journal des Connaissances Médicales*, the *Progrès Médical*, etc., [illegible] monthly, the *Archives Générales de Médecine*. We [illegible] recall any journal in either language specially devoted to gastro-intestinal diseases.

WHOSE CASE IS IT?

RUSTON, LA., Jan. 9, 1900.

To the Editor.—Suppose a man, a recent resident of a community, sends for a physician who is out at the time of the call, but, word being left at his residence to go as soon as he comes in, the physician finds, on reaching the patient, that a second one has been sent for on the return of the messenger, and that physician No. 2 has visited and prescribed for the patient, and has, a few minutes previous to the arrival of the first, retired. What is the duty of these physicians to the patient; and to each other? Who should take charge of the patient?

R. F. H.

ANSWER.—"It often happens in a case of sudden illness . . . that a number of physicians are simultaneously sent for. Under these circumstances courtesy should assign the patient to the first who arrives. . . . In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should assign the case to the latter on his arrival."—*Code of Ethics.* When, as in this case, where the patient apparently has no family physician, the first physician has prescribed, and retired, there would seem to be nothing further for the second to do. His further relations to the case would seem to cease, unless he is particularly requested by the patient and his family to act, and then, under the circumstances, it would be necessary for him to see the first prescriber as to the treatment initiated, and to have a mutual understanding with him and the family before he takes charge of the case. In such an event the second comer ought to carefully avoid any line of conduct that might influence that patient and his friends to think that he expects to have further professional relations with them. If this course is honestly followed, there ought to be no chance of professional friction or ill feeling between the physicians called. Certainly there should be none if, with all courtesy, the facts are clearly stated and understood. A physician called, whether his services are requested or not, is entitled to remuneration for the time and trouble, and should send in his bill.

The Public Service.

PRECAUTIONS AGAINST PLAGUE.

AT HONOLULU.

Major Blair D. Taylor, surgeon U. S. A., under date of Dec. 15, 1899, has reported to the surgeon-general the occurrence of bubonic plague in the Chinese quarter of Honolulu. Orders were issued by the commanding officer of the military post, Camp McKinley, suspending the pass list, defining the limits to which the men were to be restricted, and prohibiting all men, employees and servants of the command from entering the city, except when on duty or by special written permission from proper authority. The following was published by Major Taylor for the information and guidance of the command:

"Bubonic plague is an acute, infectious and more or less contagious disease caused by a specific microbe. It can be carried in clothing, food or drink, and is easily inoculable through cuts, wounds or abrasions of the surface. It is propagated and disseminated by rats, mice, dogs and other domestic animals, as also by flies and vermin. It spreads rapidly in the presence of filth, overcrowding, poor food and unhygienic surroundings, but very slowly where there exists good ventilation, cleanliness and sunlight. One of the most characteristic symptoms is the early infection of the glands of the inside of the thigh just below the groin. The glands of the armpit are also generally involved. The specific microbe of this disease is easily destroyed by 1 to 1000 bichlorid of mercury, by milk of lime, by boiling water, steam, sunlight and formaldehyde gas. Quarantine is of little avail, as disease spreads in spite of it, in filthy and foul localities. The complete isolation of the affected localities, their thorough disinfection, and the burning of all objects and articles suspected of infection constitute our weapons for stamping out this disease. For personal prevention: Keep away from an infected locality and avoid those who are known to have been there; be careful to cover and protect all abrasions or cuts of the skin as soon as noticed; wash the hands, face and mouth always before eating; drink nothing but boiled water and eat nothing but clean food; sleep in airy, well-ventilated apartments as far from the ground as possible, preferably on the second floor; see that all the surroundings of yourself and dwelling are strictly clean and sanitary. By following these directions there will be little danger of acquiring this disease, although living in its midst."

ON AN ARMY TRANSPORT.

On Dec. 12, 1899, as the transport *Warren*, carrying two battalions of the 49th U. S. Vol. Infantry, was about to sail from Honolulu for Manila, it was officially announced that three deaths from bubonic plague had recently occurred in the city. Many of the soldiers had been ashore during the two days of the transport's stay in the harbor and they had mingled freely with the natives. This suggested the possibility of some of them having become infected and the consequent necessity of taking every precaution to avoid an outbreak of the disease on a vessel so crowded with troops while en route across the Pacific. It was therefore decided to drop anchor four miles from the city and remain in quarantine for five days to await developments. A formaldehyde generator was obtained from the city authorities for use in disinfecting the effects of the men. This was done systematically in one of the hatches while the men washed down their quarters with a 1-500 solution of mercuric chlorid and then took a shower bath before recovering their effects from the disinfecting chamber and resuming their clothing. No communication was permitted with the shore, except such as was absolutely necessary, and then only by members of the medical department. Major Thomas E. Evins, surgeon, was in medical charge of the troops, with Acting Asst.-Surgeon G. W. Daywalt, surgeon of the transport. The *Warren* arrived at Manila, all well, on January 2

ARMY CHANGES.

Movements of Army Medical Officers under orders from the *Adjutant-General's Office*, Washington, D. C., Dec. 29, 1899, to Jan. 5, 1900, inclusive.

Allen J. Black, acting asst.-surgeon, from East Radford, Va., to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner* to Manila, P. I., where he will report for duty in the Department of the Pacific.

Carl R. Darnell, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Louis L. Gilman, acting asst.-surgeon, from Rochester, N. H., to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner* to Manila, where he will report for duty in the Department of the Pacific.

William S. Kidd, acting asst.-surgeon, from New York City to the Department of California.

Patrick H. McAndrews, acting asst.-surgeon, from the Department of Porto Rico to report at Fort Slocum, N. Y., to accompany recruits on the *Sumner* to Manila and to report for duty in the Department of the Pacific.

Allen D. McLean, acting asst.-surgeon, from Fort Wayne, Mich., to the Department of California.

Edward R. Morris, major and surgeon, Vols., (captain and asst.-surgeon, U. S. A.) honorably discharged from the volunteer service on tender of his resignation, to take effect December 31, 1899.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., previous orders amended so as to direct him to report at Fort Slocum, N. Y., to accompany recruits to Manila.

Robert A. Seale, acting asst.-surgeon, from Holly Springs, Miss., to the Department of California.

Bert Smith, acting asst.-surgeon, leave of absence extended.

Louis L. Stueber, acting asst.-surgeon, from Lima, Ohio, to the Department of California.

John W. Thomas, acting asst.-surgeon, from Fort McPherson, Ga., to Washington, D. C., for annulment of contract.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Jan. 6, 1900.

P. A. Surgeon A. W. Dunbar, ordered to duty on the *Monongahela*, immediately.

P. A. Surgeon R. K. Smith, detached from the naval hospital, Mare Island, Cal., on reporting of relief and ordered to duty on the *Pensacola*.

Asst.-Surgeon J. H. Payne, detached from the *Indiana* and ordered to duty at the naval hospital, Mare Island, Cal.

Medical Director A. F. Price, promoted to medical director from April 9, 1899.

Surgeon G. M. Pickrell, promoted to surgeon from Sept. 19, 1899.

Asst.-Surgeon R. Spear, ordered to duty in connection with the naval recruiting rendezvous, Philadelphia, Pa., January 9.

Pharmacist I. N. Hurd, ordered to duty at the Key West naval station, January 11.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 4, 1900.

Surgeon W. P. McIntosh, to proceed to Columbia, Tenn., for special temporary duty.

P. A. Surgeon J. C. Perry, to proceed to Manila, Philippine Islands, for temporary duty.

Asst.-Surgeon L. D. Fricks, assigned to duty as assistant to the Director of the Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon Dunlop Moore, relieved from duty at San Francisco, Cal., and directed to proceed to Portland, Ore., and assume command of the Service.

Asst.-Surgeon D. H. Currie, relieved from duty at Louisville, Ky., and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for temporary duty.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 5, 1900.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Dec. 28, 5 cases.

Illinois: Cairo, Dec. 23 to 30, 12 cases.

Indian Territory: Choctaw Nation, Dec. 18, 80 cases in mining camps.

Louisiana: New Orleans, Dec. 16 to 30, 21 cases; Shreveport, Dec. 16 to 30, 9 cases.

Massachusetts: Chelsea, December 16 to 30, 1 death; Lowell, December 23 to 30, 1 death.

Nebraska: Omaha, December 23 to 30, 1 case.

New York: Amsterdam, December 16 to 31, 1 case; New York, December 16 to 23, 1 case.

Ohio: Cincinnati, December 22 to 29, 1 case; Cleveland, December 16 to 30, 4 cases.

Pennsylvania: Allegheny, December 16 to 23, 3 cases; Pittsburg, December 16 to 30, 2 cases.

South Carolina: Greenville, December 7 to 30, 4 cases.

Tennessee: Nashville, December 23 to 30, 2 cases.

Utah: Salt Lake City, December 16 to 23, 1 case.

Virginia: Portsmouth, December 23 to 30, 10 cases, 2 deaths.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 2 to 9, 5 cases, 3 deaths.

Brazil: Rio de Janeiro, November 3 to 17, 111 deaths.

Gibraltar: December 2 to 17, 3 cases, 1 death.

Greece: Athens, December 2 to 9, 5 cases, 1 death.

India: Bombay, November 21 to 28, 14 deaths.

Russia: Moscow, November 25 to December 2, 1 case; Odessa, December 2 to 9, 3 cases, 1 death; Warsaw, November 25 to December 2, 8 deaths.

Spain: Madrid, December 2 to 9, 7 deaths.

Turkey: Smyrna, December 3 to 10, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, November 2 to 17, 6 deaths.

Colombia: Panama, December 19 to 26, 1 case.

Cuba: Matanzas, December 29, 1 soldier.

PLAGUE.

Hawaii: Honolulu, December 11 to 18, 2 cases, 2 deaths.

India: Bombay, November 21 to 28, 137 deaths; Calcutta, November 4 to 18, 77 deaths; Kurrachee, November 18 to 25, 3 cases, 1 death.

CHOLERA.

India: Bombay, November 21 to 28, 4 deaths; Calcutta, November 4 to 18, 25 deaths.

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Original Articles.

SYPHILIS OF THE NERVOUS SYSTEM AND THE USE AND ABUSE OF MERCURY AND IODIN IN ITS TREATMENT.*

BY WILLIAM M. LESZYNSKY, M.D.

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NEW YORK CITY.

Syphilis of the nervous system and its treatment is a subject of such magnitude and universal importance that it can not be satisfactorily dealt with in a brief discourse. My remarks will therefore be confined more particularly to intracranial syphilis, this being the commonest type of the disease with which we have to deal.

Syphilis is one of the most frequent infectious causes of organic nervous disease. Hence, in every patient who appears with symptoms of disease affecting the nervous system, we must ascertain, if possible, whether he has ever contracted syphilis. This is comparatively difficult with women patients. In every doubtful case we are forced to depend on the existence or non-existence of somatic signs of the disease, the collateral symptomatology, and the character and course of the nervous manifestations. When it is discovered that syphilis has been acquired at some more or less remote period, it does not necessarily imply that every morbid condition of the nervous system which develops in the subsequent course of life should be at once attributed to this early infection.

Although such an individual is more apt to develop nervous syphilis, he is in no sense exempt from other (non-syphilitic) nervous disorders.

On the other hand, there are certain rather characteristic symptoms occurring in connection with lesions of the nervous system, which are unmistakably traceable, in almost every instance, to a previous or existing syphilitic process. If the disturbance is evidently of a luetic nature, it does not logically follow that the prognosis is favorable even under the best management.

When confronted with a disease of the nervous system in which the etiology seems obscure on account of the absence of a previous luetic infection, the physician has frequently expressed his conviction to the patient, that the presence of an antecedent syphilis would simplify the treatment, and thereby insure a favorable result. This erroneous idea has unfortunately become more or less prevalent, not only among physicians but likewise among laymen. Such an optimistic view is unjustifiable, and frequently leads to disappointment. It is usually based upon a mistaken conception of the pathology of the disease, or a credulous adherence to ancient and traditional doctrines.

The large majority of clinicians agree that thorough treatment in the early period after infection is the most efficient means of protection at our command, and that those who are either inadequately treated, or not treated at all, form the greater contingent of the class who pass into the so-called tertiary stages. This view represents the consensus of opinion of many reliable observers, and is based on an overwhelming mass of statistic material collected in all civilized countries.

In spite of this, several observers assume a heterodox attitude, in stating that recently acquired syphilis, whether thoroughly treated or not, uniformly passes into the tertiary stages of the disease. No matter how much polemic argument is indulged in on this point, we are forced to acknowledge from practical clinical experience, that patients in whom a thorough and systematic antiluetic treatment was carried out during the early stage following the primary infection, are not insured thereby against subsequent syphilitic disease of the nervous system. In these patients, however, it would seem that the symptoms appear in a milder form as compared with those who had never received suitable early treatment.

That the so-called degenerative types affecting the cerebrospinal system often appear in spite of vigorous early treatment is too well known to be denied. It will thus be seen that we possess no sure remedy which will protect the nervous system against its ravages when syphilis has once been acquired.

It is a remarkable fact, familiar to all neurologists, that in many patients whom we see with unmistakable signs of nervous syphilis, the primary infection has not been followed by any recognized secondary symptoms. Careful interrogation results in the information that there was an indurated chancre on the prepuce, with or without enlargement of the inguinal glands, and that is all. It is probable that a roseola was present but was overlooked. The absence of early treatment in these mild cases of acquired syphilis may account for the frequency of such conditions.

The syphilitic poison, when it invades the nervous system, affects it in several characteristic ways. 1. It may attack the intracranial or spinal arteries, producing an endarteritis, which gradually leads to thrombosis and occlusion of vessels, thus cutting off the blood-supply to the corresponding area. 2. It may give rise to a gummatous growth, or to a local or diffuse gummatous exudate, involving the meninges and infiltrating the adjacent brain structures. This specific inflammatory process may gradually press upon, or ultimately destroy by new tissue formation, conducting fibers or nerve-cells. 3. The nutrition of specially susceptible cell structure may be slowly interfered with, the cell substance and its processes undergoing gradual degeneration.

The first two forms are known as "inflammatory" or "exudative," and are usually more or less acute in their onset. They are not always late manifestations, for they often occur within the first two or three years, and may

* Read before the New York County Medical Association, Dec. 18, 1899.

arise within a few months after infection. The latter has been characterized as "degenerative" or "post-" "para-" or "meta-syphilitic," and is essentially chronic.

The gummatous meningitic exudation most frequently attacks the base of the brain, involving the cranial nerves. The forms of brain syphilis most dangerous to life are: 1. That which attacks the cerebral arteries, producing obliterative endarteries. 2. Basal meningitis and meningo-encephalitis extending to the posterior fossa.

While it is virtually admitted that syphilis is an incurable constitutional disease, paradoxic as it may seem, it is the most amenable to treatment under certain conditions. The fact should be well understood by all, that while many of the effects of the disease are thus amenable, there is no method known at the present time by which we can eradicate the virus or its toxins from the system, and be enabled to say positively that the patient will remain free from further attacks. The *materies morbi* remains latent for years, unexpectedly manifesting its potency through some unknown exciting cause.

A clear comprehension and appreciation of the following important facts, which will bear repetition for the purpose of emphasis, may be the means of saving many a patient from useless, if not dangerous, medication.

1. Syphilitic inflammation produces more or less exudation, which terminates in the formation of connective tissue. Should this fibrous tissue entangle nerve-cells or fibers in its meshes they may be permanently destroyed. The symptoms that result from this interference with innervation or conductivity, when they have persisted for months or years in spite of active measures, are those that prove unamenable to further antisyphilitic or any other form of treatment.

2. When a cerebral artery becomes the seat of thrombosis, and this is most frequently the middle cerebral or its branches, whether such obstruction be superinduced by syphilitic endarteritis, atheroma or otherwise, the immediate results are similar. The interference with the nutrition of the corresponding cerebral area is shown by either partial or complete loss of physiologic function. The degree of the disturbance depends, *a*, on the size of the vessel involved, and the extent of structure which it supplies; *b*, its partial or complete occlusion. When the caliber of a small vessel is obstructed or obliterated, there may be some restitution of function through the early establishment of a collateral circulation. This does not occur, however, when a large artery becomes closed. The result of this cutting off of the blood-supply is necrotic softening. This dead brain-tissue can not be restored by antisyphilitic treatment. In many of the patients in whom occur transient monoplegia or hemiplegia, or aphasia, or attacks of petit mal or other loss of consciousness, these symptoms are occasioned by beginning thrombosis of cerebral blood-vessels. The distinction should be made in every instance, between those due to simple atheroma and those due to syphilitic endarteritis.

3. Cerebral hemorrhage of the familiar form, destroying the motor fibers of the internal capsule, may be the result of the rupture of a syphilitic artery. This is of much rarer occurrence than thrombosis. It is the hemorrhage that has done this damage mechanically, and the resulting paralysis can no more be correctly termed "syphilitic hemiplegia" than the hemiplegia resulting from necrotic softening in the same location. In both instances, certainly, syphilis is recognized as the remote cause, but the destruction of this portion of the motor tract is irremediable, and can not be modified by the use of antisphyilitic remedies.

I have thus endeavored to show that such residual symptoms indirectly due to syphlis can not be favorably influenced by antisyphilitic treatment, or by any other measures at our command. It is not only useless, but harmful, to persist in giving such patients either mercury or iodid of potash for an indefinite time, with such an object in view.

We must, therefore, direct our attention to the removal of the specific process itself, and in this accomplishment often lies one of our most brilliant therapeutic achievements. Recent exudative inflammation, gummatous growths, gummatous meningitis and meningo-encephalitis, pachymeningitis, obliterative endarteritis and periarteritis are *the* conditions which are most amenable to antisyphilitic treatment. It is not sufficiently recognized that there are extreme variations in the natural character and course of the disease. In some, it is brief and the symptoms disappear spontaneously. In others, it is extremely virulent, and there is a tendency to frequent recurrence, which may or may not be influenced by treatment. As individuals differ in personality, constitution, idiosyncrasy, etc., so does the activity of the syphilitic poison and the reaction to treatment vary in different individuals. The same is true in regard to all other infectious diseases. Much satisfaction will be gained by the knowledge that, in general, the good results of antisyphilitic treatment are shown early in the first or second week, improvement being at times marvelously rapid. Occasionally it takes from two to six weeks before improvement begins.

The rapidity of relief depends on several important factors: 1. The virulence of the disease. 2. The duration and character of the symptoms. 3. The susceptibility of the patient to the action of mercury and iodin.

The only drugs known to possess a specific influence on the disease and its pathologic products are mercury and iodin. The customary and preferable method of administering mercury is by daily inunction, until some of the familiar signs of mercurialization are manifested. The time required for this effect may be from a few days to two or three weeks. In rare cases, where a more rapid action is desired, we may resort to subcutaneous injections of calomel or bichlorid. Iodin, in the form of iodid of potassium, is given in saturated solution, usually beginning with ten minims three times a day, well diluted, and the dose gradually increased daily to the point of intolerance. Some patients can take with benefit, and without discomfort, as much as two or three drams or more, three tmes a day. It has always seemed to me that the iodid is quicker in its action than mercury, the alarming symptoms of cerebral syphilis sometimes disappearing like magic under its use. As a rule, it has been my custom to begin with mercurial inunctions, followed by increasing doses of iodid of potassium. When a rapid effect is required, the iodid is given in conjunction with the mercurial treatment. The duration of treatment with iodid of potassium varies with the individual patient. Generally speaking, its use should be continued until all active symptoms have subsided. Two or three months, however, is about the average length of time. Early, energetic and persistent treatment should be the rule: the earlier the better. Much harm may be done to the general health by the excessive, prolonged and injudicious use of these remedies. As a special illustration. I may mention that primary optic nerve atrophy progresses more rapidly to complete blindness under the protracted use of mercury.

The choice of preparation, the method of administra-

tion, and the dosage should be governed by the exigencies of the case and the judgment of the attending physician. For further details I must refer to the various modern text-books on this subject.

The syphilitic virus, like the virus of other infectious diseases, by diminishing the resistance, i. e., the vitality of the cell, more readily predisposes the patient to degeneration in the nervous system. It is this broad principle which should guide us in the general management of every case, whether it be of the degenerative or the exudative variety. We should, therefore, invariably institute a suitable tonic régime, in conjunction with and following the specific medication.

Tonic measures, such as nutritious food, baths, massage, electricity, and all other means directed toward improving the general health, must not be considered simply as adjuvants, but as constituting a most important therapeutic element, and continued as long as necessary.

As a prophylactic against recurrence, moderate doses of iodid should be administered daily for several weeks, three or four times a year, and the general health conserved as much as possible. In no other affection of the nervous system is a comprehensive knowledge of neurology more essential, our measure of success in the treatment depending on the early recognition of the cause of the symptoms.

When the diagnosis of syphilitic disease is doubtful, too much dependence should not be placed on the so-called therapeutic test, or, as it is frequently termed, the diagnosis *ex juvantibus*. While it possesses at times a certain value, it is more often unreliable, for we all know that mercury influences simple as well as syphilitic inflammation, and that iodin also promotes the absorption of non-syphilitic inflammatory products. On the other hand, the presence of syphilis can not be positively excluded when improvement *fails* to follow the administration of these remedies.

In this connection, the following illustrative and characteristic case will prove interesting in demonstrating many of the points above mentioned:

L. T., 32 years of age, born in the United States, was first seen by me Oct. 21, 1897. She was married sixteen years ago, and has one child, now 15 years old, in perfect health; no miscarriages. She has been separated from her husband for ten years, owing to his dissolute character. She was well until five years ago, when she began to have pain in the course of the left sciatic nerve. During this period there were occasional intervals of freedom from pain, the longest being three months. About a year ago, without any previous injury, large ulcers developed on both legs, which were slowly healed after prolonged treatment. Three months ago she was attacked by severe paroxysmal general headache about every half hour. Sometimes it was almost continuous day and night. This was accompanied by failing vision. During the last four weeks there has been persistent and continuous pain on the left side of the face and in the left eyeball. This was associated with frequent, sudden, and apparently causeless vomiting. She also complained of diplopia, somnolence, general weakness and extreme sensitiveness to cold. There was no history of primary syphilitic infection, alcoholism, or injury to the head. The menstrual function was regular. The bowels are always constipated. During the last four weeks she has been under medical treatment for trigeminal neuralgia and has taken antineuralgic remedies galore without relief.

The patient, who was accompanied by her mother, appeared in dire distress, with her head almost completely enveloped in several large wraps, her eyes only being partly exposed. She moaned most of the time, frequently uttering a sudden agonizing shriek. She was admitted to the hospital, under my care, for further examination and treatment.

On admission, the pulse was 76 and regular; temperature and respirations normal. The heart, lungs and abdominal organs showed no evidence of disease. There was considerable mental hebetude and somnolence. She suffered from paroxysms of intense pain, affecting the two upper branches of the left trigeminus distribution, and the frontal region on both sides. The scalp was hyperesthetic, especially on the left side. There was tenderness on pressure over the spinous processes of all the cervical vertebræ, but no rigidity of the neck muscles. Slight convergence of left eyeball was evident, as a result of paresis of the external rectus muscle, which required a prism of 30° to overcome the diplopia. The pupils were unequal, the right measuring 5 mm. and rigid; the left 3 mm., but reacting well to light, although there was no reaction consensually or in efforts at convergence. Vision: R. E. =20/30—; L. E. = 20/30—.

There was "choked disc" of 3 D. in the left eye, and receding papillitis in the right. Right homonymous hemianopsia was present, and right facial paralysis, affecting only the lower branches. The tongue protruded well, but deviated slightly toward the right. There was no objective sensory disturbance in the course of the fifth nerve. Hearing and sense of smell were normal. There was right hemiparesis, with exaggeration of all reflexes and ankle-clonus on the same side; left side normal; no sensory disturbance. There were marks of old ulceration over the calf muscles on both sides. Examination of the urine was negative.

Diagnosis.—Syphiloma, involving the left crus, destroying the left optic tract, and making pressure on the pyramidal fibers, and the fifth and sixth nerves, on the same side.

She was given a large enema and 5 grains of calomel, which proved effective in relieving the constipation. In addition to general management, mercurial inunctions were begun at once and continued twice daily, in conjunction with increasing doses of iodid of potassium, beginning with 12 gr. three times a day.

Within three or four days, the vomiting, pain, and hebetude began to subside, and gradually disappeared a few days later. She remained in the hospital two weeks. During this time the pulse, temperature and respirations were normal. The mercury was discontinued at the end of three weeks, the iodid being given for ten weeks longer, the maximum dose being 70 gr. t. i. d. The optic neuritis, and the paralytic symptoms had entirely disappeared at the end of five weeks, the pupilary rigidity and the hemianopsia remaining unchanged.

She has been under my observation from time to time during the last two years, and there has been no recurrence.

At the last examination, made Nov. 20, 1899—over two years since her illness—it was noted that she was in perfect health. The left pupil did not react to light, and vision was: R. = 20/20; L. = 20/20; and the hemianopsia was still present.

It will be observed that all of the active symptoms disappeared rapidly under treatment, while the residual symptoms, such as the loss of pupilary reflex and the hemianopsia have remained permanent.

It has been said that there is no form of syphilitic

nervous disease which should exclude "specific" treatment. From such a misleading statement, it would be inferred that mercury and iodin are also beneficial in all cases of the so-called parasyphilitic affections, among which have been included a large percentage of cases of tabes, paretic dementia and progressive ophthalmoplegia. As previously mentioned, these diseases are degenerative in character.

When uncomplicated by a specific inflammatory process, they are not benefited by such treatment. One difficulty in this matter lies in the possibility of mistaking cases of exudative cerebrospinal syphilis for true tabes, i. e., an inflammatory for a degenerative condition. I speak of tabes because it is the most common and representative type assumed to belong in this category. When such a differentiation is not clear, or is impossible, the patient should be given the benefit of any reasonable doubt, and these drugs administered.

What I wish to emphasize is that patients with tabes, for instance, who have had syphilis, but have never received antiluetic treatment since their tabetic symptoms have occurred, should be given a course of active medication for several weeks. If this has already been carried out without relief, it is useless, nay, even harmful, to repeat the procedure. Not only have I never seen such patients improved by this means, but I have repeatedly noted an increase in the degree of many of the symptoms, presumably as a result of interference with the general nutrition. For several years many writers have endeavored to prove, by a formidable array of statistics, that "syphilis is *the* cause of tabes," and that "without syphilis there would be no tabes." It is to be deplored that the majority of practitioners, in blindly following this extravagant dogma, look on "tabes" and "syphilis" as almost synonomous terms, their consecutive thoughts on this subject when expressed laconically being locomotor ataxia, syphilis, mercury and iodid of potassium. Among many others, I must still maintain the opinion that tabes is *not always* due to syphilis, and that many cogent reasons are forthcoming which will sustain this view.

With the positive knowledge of an antecedent syphilis, we are by no means certain that these degenerative diseases are always the result of such early infection. From careful observation in a large number of cases, it has always seemed to me that there are additional causative factors, such as alcoholic, sexual or other excesses, or a congenital or acquired neuropathic constitution, which favor the development of degenerative processes in the nervous system, even in those patients who have contracted syphilis at some remote period. But this is neither the time nor place for the exploitation of the facts bearing upon this interesting and important topic. Let us all look forward with the hope that rapid advance in the modern methods of bacteriologic research will be the means of discovering the specific germ of syphilis, and its antitoxin, and thus prove the salvation of humanity from one of the greatest scourges of civilization. At the present time, then, the prevention of syphilis is practically an unsolved problem. For men may come and men may go, but syphilis goes on forever.

56 East Fifty-Eighth Street.

DISCUSSION.

DR. EDWARD D. FISHER said that cases of nervous syphilis yielded the best results under antisyphilitic treatment when the process was a rather acute one. Thus, in pseudogeneral paresis, and in cases of rapidly developed paralysis of the ocular muscles, occurring independently of rheumatism, one might expect satisfactory, and sometimes even brilliant, results from specific medication. Spinal syphilis is often confounded with tabes, though usually easily differentiated by remembering that tabes is never so rapid in its development. He would recommend a trial of antisyphilitic remedies in all cases of tabes characterized by sudden exacerbations, as such fluctuations are generally regarded as evidence of fresh gummatous infiltrations.

DR. EDWARD G. JANEWAY cited several cases in illustration of the importance of the physician endeavoring, in cases of cerebral syphilis, to determine both the nature and the site of the lesion. Thus, in a case diagnosed by an eminent neurologist as one of tumor of the brain, no new growth was discovered at operation, and the autopsy showed instead a syphilitic hyperostosis of the skull. It is well to remember that in cases exhibiting a peculiar intolerance to iodid of potassium, iodid of sodium or of strontium may be better borne, and if these also fail, excellent results may still be achieved by giving iodid of potassium by the rectum. The diagnostician should bear in mind the liability of mistaking a persistent fever, coming on in tertiary syphilis, for tuberculosis. Regarding the relation of syphilis to tabes and general paresis, the speaker stated it to be his firm conviction that, in the great majority of instances, these diseases are of syphilitic origin, and he, therefore, advised in doubtful cases, a resort to the therapeutic test, claiming that it is fully justified by the circumstances.

DR. CHARLES I. PROBEN thought one could not reasonably expect much benefit from antisyphilitic treatment in cases of the degenerative type. Sometimes iodid caused marked emaciation and when this was observed, the dose should be reduced, or the drug entirely discontinued. This reduction in the body weight is especially noticeable in persons suffering from tuberculosis.

DR. BOLESLAW LAPOWSKI favored the use of mercury in the metallic form, as this imposes the least work on the system. It is his practice to use mercurial inunctions whenever possible, with due attention to the state of the kidneys and their ability to eliminate the mercury. In cases of such urgency that even mercurial inunctions are too slow and uncertain, he would be willing to employ calomel injections, or even the admittedly dangerous method of administering sublimate by intravenous injection.

DR. H. M. LESZYNSKY, closing the discussion, took issue with Dr. Fisher regarding the harmlessness of the iodid, claiming that it not only interferes with the nutrition of the individual, when continued for too long a time, but renders the patient less susceptible to its action, so that in the event of the development of new and urgent complications, the physician would be unable to stay the progress of the disease. Moreover, it has seemed to him occasionally that he had actually hastened connective tissue formation by giving iodid.

EVIDENCES THAT BOVINE TUBERCULOSIS IS COMMUNICABLE TO MAN BY DIRECT CONTACT, OR BY FOOD INFECTION.*

BY JOHN A. ROBISON, A.M., M.D.

CHICAGO.

During the past two years the subject of the cause and prevention of tuberculosis has occupied the attention of the medical and lay public, and the medical journals and newspapers have been teeming with literature on the subject. The possibility of man deriving the infection from cows has been emphasized and reiterated until the public is frightened, our boards of health are advocating stringent methods for the extermination of bovine tuberculosis, and our legislatures are considering the passage of strict laws to this end, the regulation of dairies and the sale of tuberculous flesh and milk. The main proposition seems to be that bovine tuberculosis is one of the principal causes of the spread of tuberculosis among

*Presidential Address to the Chicago Society of Internal Medicine, delivered Oct. 31, 1899.

man; eradicate it, and you prevent its spread among the human species.

Considerable yellow literature has been issued on this subject, and I wish to review the arguments in favor of and against the proposition, and quote freely from authorities on both sides of the question.

What are the evidences in favor of the belief? Those who favor this base their faith on the following reasons: 1, the identity of the pathology of tuberculosis in cattle and man; 2, the similarity of the bacilli of the respective tuberculoses as observed under the microscope, their growth in the various culture-media, and the identity of their biologic characteristics; 3, the behavior of animals infected with cultures from the respective sources; 4, the reaction of tuberculin on cattle and the human subject, and, 5, statistical evidence of its production in the human subject by direct contact with infected animals, or by the ingestion of tuberculous flesh or milk, and the alleged immunity of persons who are vegetarians, or at least who do not partake of tuberculous flesh.

As to the identity of the pathology of the disease in the respective species, man and cattle, bovine tuberculosis has long been known to present pathologic similarities to the appearances found in the tuberculosis of man, the distinctions being that the tubercles of bovine origin are located by preference in the serous membranes, and consist of giant cells in a coarse reticulum, with less tendency to cheesy degeneration or calcification than in the human subject. In 1865, Villemin proved that tuberculosis might be induced in animals by inoculation, this proving being corroborated in 1877 by Cohnheim. The pathologic appearances in the inoculated tuberculoses being almost identical with the spontaneous forms of the disease, it was easy to argue that the same bacillus doubtless caused the disease in all species of mammalia, and it was only one step further to argue that if the disease can be transmitted from the human subject to other species, it is possible for the former to be infected by another animal.

Later experiments demonstrated the fact that tuberculosis could be induced in animals fed with tuberculous food. If this is true, why should not the converse be true, and the human be susceptible to the disease through contaminated food? The argument was brought forward, after it was demonstrated that the bacillus could be found in the milk of tuberculous cows, that the frightful infant mortality from tuberculous diseases must be due to the inoculation of children through the food. The hospital records showed that about 40 per cent. of deaths in infants was due to tuberculous diseases. These were supposed to be due in a large measure to the fact that infection gained entrance through the digestive tract.

As to the second reason, the identity of the bacilli in the various forms of tuberculosis as found in the different animals, fowls and fish, it has been only recently that a belief has grown that there may be various forms of bacilli producing the various forms of tuberculosis, instead of the various tuberculoses being manifestations of the same bacillus under different environments. Koch himself did not stop to clear up the question: and the profession was so impressed with his brilliant discovery that it did not try to answer the query, but later we will try to demonstrate that the morphology and biology of the various bacilli are not identical according to the most recent light on the subject. The behavior of animals infected by cultures from various sources was thought to be the same, but to this point we will later call your attention.

When Koch's tuberculin was presented to the world, it was hoped an efficient agent had been found to combat the ravages of consumption, but we have found we must be content with its value in diagnosis. It is now acknowledged to be of great value in the diagnosis of bovine tuberculosis, and of less utility in that of obscure cases of tuberculosis in man. However, its reaction in man and animal being so nearly identical, has led many to believe that the use of tuberculin is a powerful argument in favor of the identity of the various forms of tuberculosis.

Lastly, we come to the statistical part of the argument. A long array of statistics seems to prove the great danger which exists in the transmission of the disease from animals to man when he is brought in direct contact with the diseased animals, or partakes of the food from these animals. That not only the laymen, but our state officials, are imbued with this doctrine is illustrated in the following extract from the report of the Live Stock Commissioners for 1895: "In tuberculosis, either in animals or man, the specific germ, the bacillus tuberculosis, is always found, and this can be artificially transmitted by introducing this germ into the blood of the healthy individual. It is thus that tuberculosis has gained such a fearful hold upon mankind and our domestic animals, by contact with the germs from a previously affected person or animal, or by using the milk or flesh from a diseased animal."

The United States Veterinary Medical Association met in Chicago in 1893, and the report of its Committee on Diseases has the following: "Tuberculosis, so common in the thickly settled parts of this country, is readily diagnosed to-day, and, with these centers of infection eradicated, there will undoubtedly be a marked difference in the death-rate of mankind."

Dr. James Law, V. S., of Ithaca, N. Y., in an address before the United States Veterinary Medical Association, in 1898, on the "Dangers to Mankind from the Consumption of the Flesh and Milk of Tuberculous Animals," says: 1. The bacillus tuberculosis, from whatever animal derived, has a similar, apparently an almost identical, morphology. 2. All alike have peculiar staining properties, which distinguish them from all other pathogenic organisms except the bacillus lepræ and the smegma bacillus, the lesions of which can not be confounded with tubercle. 3. Its viability and destructibility; its thermal death point: its destruction by light; its survival of drying, freezing and putrefaction: its propagation through dust, agree, no matter from which source obtained. 4. In the general susceptibility of a great number of genera of animals to the inoculated germ, and in the special susceptibility of the common experimental animals, like rodents, to the germ as derived from different animal sources, we have another strong evidence of an essential unity. 5. In the usual seats of election for the propagation of the bacillus in the bodies of different animals, and irrespective of the animal from which the virus was drawn, we find another indication of primary and essential identity. The preference of tubercles for the lymph glands, lymph plexuses and lymph sacs or serous membranes is a characteristic that need not be specially insisted on. 6. The close similarity of the lesions caused in different animals by the bacilli drawn from the different genera bespeak an essential identity. 7. In all forms of the disease, and from whatever source the bacillus may have been derived, there is the same tendency to a slow evolution of the morbid lesion. 8. The bacillus tuberculosis from any genus of animals demands for its artificial culture a special culture-medium, glycerined or glucosed as the

case may be, while it refuses to grow readily on the common culture-media of the laboratory. 9. The bacillus drawn from any genus of tuberculous animal grows with remarkable tardiness, and does not attain a full development until at the end of about two months. 10. The culture-medium of the bacillus from any genus of animal, whether man, ox or bird, becomes charged with those products, which are collectively known as tuberculin, and to all cases alike these act on the tuberculous system in the same way, causing hyperthermia and other nervous disorders. It matters little whether the bouillon had been seeded from the tubercle of man, ox, bird, ape or bear, the resuting tuberculin can be used with confidence in testing for tuberculosis, in any animal.

The establishing of these facts should be sufficient to prove the unity of the germ. As corroborative proof, this author submits a list of cases of accidental infection of man from the ox. In only one of this list did the victim die of pulmonary tuberculosis where the infection was supposed to be due to direct contact with a diseased animal. He records twenty cases of ingestion infection, also, in which generalized tuberculous infection ensued. Shakespeare, Osler and other prominent physicians are quoted as remarking on the prevalence of intestinal and mesenteric tuberculosis in children as the result of vitiated food-supply, while Comby is stated to have shown[1] that tuberculosis of the intestines and tabes mesenterica are diseases occurring especially between early and late childhood, between two and five years. Dr. Law then argues for the intertransmission of tuberculosis between cattle and men by the geographic distribution of the respective forms of tuberculosis being similar. In the Scottish Hebrides, Iceland, Newfoundland, coasts of Hudson Bay, Norway, Sweden, Lapland, Finland, the Pacific Islands, the Kirghiz Steppes, Colombia, Ecuador and the interior of the Argentine Republic, it is claimed tuberculosis is rare on account of the scarcity of cattle. Formerly it was seldom found in Australia, Tasmania, Minnesota and Dakota and among the North American Indians, until cattle were introduced; since then the disease has rapidly spread. In China and Japan it is seldom found among the poorer classes, who live chiefly on rice, while among the mandarins and the aristocrats it is prevalent because they are beef-eaters.

Hirschberger declares that 25 per cent. of all the children dying under 1 year of age, die of tuberculosis. J. Burden Sanderson says 40 per cent. of the hospital cases are tubercular. Von Wesner, Fischer, Baumgarten, Bollinger, Johne, Martin and scores of our American observers come to similar conclusions. These observers believe the infection is due principally to the use of infected milk, as they are not convinced that the danger is great from the use of tuberculous flesh.

Let us look at the opposite side of this question. First, as to the identity of the bacillus found in bovine and human tuberculosis.

Dr. Theobald Smith[2] has made a comparative study of bovine tubercle bacilli and of human bacilli from sputum. In this seven sputum and six bovine cultures were used, also one animal culture presumably from sputum, and one each from the horse, the cat and the pig. His results may be summarized as follows: *Morphologic and biologic characters*—1. Bovine and other animal bacilli grew less vigorously for a number of generations than the sputum bacilli. 2. Bovine bacilli are much less influenced by certain modifications of the culture-medium. 3. Bovine bacilli tend to remain short: human bacilli are either more slender from the start or become so during the cultivation. *Pathogenesis:* Bovine are more virulent than the human bacilli; the lesions they produce are more grave and more bacilli are found in them. As to the intertransmissibility of the two forms of the disease, Dr. Smith lays down two propositions: 1. The sputum bacillus is incapable of finding a foothold in the bovine body. 2. The bovine bacillus may pass to the human subject on account of its higher pathogenic power. He states that the second proposition has been discussed for many years, without bringing us any nearer to any definite knowledge, but after reviewing some of the supposed cases of infection of man from cattle, he remarks: "If bovine bacilli may invade the human body without let or hindrance, we have not only food infection through milk and products to guard against, but also the inhalation disease to which men are exposed in stables containing tuberculous cattle. What proportion of tuberculous subjects derive their infection from these sources we do not know. Now that we have established some fairly pronounced differences between the bovine and sputum bacilli, the whole discussion might be cut short by the suggestion that the time has come to stop citing old and doubtful cases and go to work to study with care the tubercle bacilli from cases of supposed animal origin, so that some experimental, trustworthy basis may be formed upon which to found statistics. In the meantime the relation of bovine to human tuberculosis must be somehow defined before a fairly helpless and frightened public. It seems to me that, accepting the clinical evidence on hand, bovine tuberculosis *may* be transmitted to children when the body is overpowered by large numbers of bacilli, as in udder tuberculosis, or when certain unknown favorable conditions exist. To prevent this from occurring, a rigid periodic dairy inspection and the removal of all suspicious udder infections and all emaciated animals is as much as public health authorities can at present demand."

Smith says the accumulated evidence of bacteriology is opposed to the view that the bovine bacillus may enter the human body and change into the sputum variety of bacillus, but the question of pulmonary phthisis being secondary to infection by the digestive tract is one which must be studied more scientifically in the future. Tubercle bacilli tend to gravitate toward the lungs, no matter by what portal they enter the body. In closing, he says the main questions to be studied are: 1. The study of tubercle bacilli from different types of tuberculosis to determine their relation to the sputum bacillus and the bovine bacillus as regards their virulence. 2. The study of the bacilli in primary intestinal disease and in all tubercular disease in children, where the source of infection is asssumed to be outside of the family and possibly in the milk.

While the value of tuberculin as a diagnostic agent in bovine tuberculosis seems to be well established, it is not so clearly shown in human tuberculosis. Dr. Edward O. Otis, Boston, is one of the most enthusiastic advocates of tuberculin for this purpose, and summarizes his observations in cases as follows: 1. The tuberculin test indicates early tuberculosis by a general reaction before it can be detected by other means, except the X-ray, in the large majority of cases, with a dose of from 5 to 10 mg. of Koch's original tuberculin. . . . 2. Proved tuberculosis in a more or less advanced stage may fail to give the reaction from doses of 10 to 12 mg. 3. Syphilis gives the reaction in an undetermined proportion of cases. 4. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. Therefore, we must admit that the reliability of the tuberculin test is not proven to be equally accurate in

bovine and human tuberculosis. Accordingly, we will pass this point to the consideration of the statistical evidence of the transmission of the disease by direct contact with diseased animals, or the use of food products from such diseased animals.

In the diagnosis of tuberculosis in children it must be acknowledged that it is difficult to prove the route of the infection. Dr. George F. Still[3] opposes the common theory that the frightful mortality among children from tuberculosis is from intestinal infection. He found that in 89 autopsies of children under 3 years of age, 63 appeared to have been originally infected through the lung, and 26 through the intestine, while in 91 between 3 and 12, the pulmonary infection was apparently prior in 55, and that of the intestines in 36. The conclusion must be that the infection by inhalation is more to be dreaded than from food. The apparent danger of infection through the food may lead to the neglect of preventing infection through the air.

I quote freely from a paper by Edward Moore, V. S., Albany, N. Y., who forcibly and graphically opposes the theory of the transmission of the disease from cattle to man. Speaking of the reported cases of direct infection of man by the ox, he says: "I have read of cases of accidental inoculation of the human from the bovine, and if they occur they must be rare, inasmuch as none have come under the writer's observation, and probably no one has had greater experience with tuberculosis in cattle. I am positive that many supposed cases have been incorrectly interpreted. Suppose one member of a family on a farm develops tuberculosis, and there are one or twenty tuberculous cows on said farm, it does not prove that the individual obtained the infection from the bovine. It is quite probable that he has been exposed to infection from human tuberculosis hundreds of times. Many reported cases hang on just such vague evidence as this. . . . Just as positively must we know that infection passes to the human adult or child from cow's milk or its products, or from beef, or through ingestion in other ways, or by inhalation of bacilli from the bovine, and that they alone establish the disease ere we can truthfully say there is such transmission. How may we know that a human being is tuberculous when no germs can be obtained from the subject, and no marked symptoms are observed? If an adult or child has tuberculosis, and it is proved that such patient has partaken of milk for any length of time from a cow known to be tuberculous, it is by no means certain that infection came from the cow unless there is proof that it did *not* come from the human, and that it did not exist prior to his ingestion of the milk. Let us take cognizance of the difficulty of establishing such a fact. Humanity wanders incessantly. The germs of human tuberculosis are wafted on the winds, are carried by the waters, may be brought home in food or clothing, may be inhaled at church, theater, or hotel, in motor or parlor cars. They do not stand out in large black masses, like the rocks the mariner is ever alert to avoid, but without our ken, noiseless, imperceptible and intangible they surround and invade us. They do not sting when they capture a victim: then how can we know the time, the place, and the source of infection? Even the milk from that tuberculous cow just mentioned may be further contaminated by bacilli from a human being before it reaches the consumer, and the bacilli from the human being may establish disease, while those from the cow prove inert. Consumption in people is so common that physicians have unlimited facilities to study its etiology. For instance, in New York State the deaths from this disease for eight years from 1888 to 1895 were 104,804, an average of 13,100 a year, and it averaged about 11 per cent. of all deaths. The annual report of our state board of health for 1896 says: 'Tuberculosis in some form or other accounts for a very large percentage of the deaths in the state, and when it is known that there is at the present time a large amount of meat consumed from tuberculous cattle, and that milk from such cattle enters into the dietary of the people, and that there is danger when the bacillus is ingested, it is believed to be a most potent source of infection, especially in children.' Note the expression, *believed to be*, and if we read from scores of writers on this subject we shall find that when they come to this point they all hide behind just such terms. Where are their facts, and why do they not give us some positive statements, with convincing illustrations of the methods by which they proved to themselves that such was the case? Too long have writers worn the thinking caps of others, too confidingly have they accepted the statements of supposed authorities. There has been too much heredity in ideas and quotations. Practically all the people of the State eat the products of cattle all their lives, and tuberculosis in cattle is well distributed throughout the State. Now, then, if the disease passes readily to man, even laymen should be able to note the fact where large numbers of cattle are infected. But they, and their physicians, and their veterinarians have merely presumed, imagined, believed, supposed, and concluded that such 'might be the case.' One thing is well known, viz., that 13,000 human consumptives give off enough infective material annually to account for all the human tuberculosis in the State without the aid of a single bovine. It is of less interest to physicians whether tuberculosis is transmitted from the human to the bovine; still, if the disease is intercommunicable, as we are assured it is, then it is equally important either way. I have not been able to learn of a case where the disease was established in a cow or a herd from human sputum.

Dr. Cooper Curtice says: "In 1897 I tested two hundred and forty cattle in the vicinity of Saranac Lake, N. Y. Every one there supposed that I would find tuberculosis in herds that fed in the fields where the consumptive patients that resort to this place take their exercise. Not one case was found. Not only this, but the herd of the sanitarium had been previously tested with like results.' If tuberculosis could be transferred to cattle from human beings, it should certainly occur at such a place as Saranac Lake, a sanitarium where thousands of consumptives resort. Thus, while feeding experiments may have been interpreted as showing in some instances that infection from human to bovine were possible, it seems very well established that the infection from man to cattle does not obtain when consumptive people and healthy animals occupy positions toward each other daily which are calculated to offer every opportunity for such transmission. . . . I will presently offer some practical evidence from the everyday lives of people who are constantly exposed to the infection from bovine tuberculosis. I know the cattle, know the percentage of diseased animals in herds, and have been aware of the existence of disease in the herds for from several to eighteen years. I have visited the people, dined with them when there was plenty of bovine bacilli on the table to satisfy any ordinary craving, and I have noted the health of those families, especially that of the children, many of them having all of their lives used the products of herds largely infected, and I have not yet discovered a single case of human consumption therefrom. It is evidenced that if

transmission is common, or even possible, the farms where large numbers of infected cattle are kept are the places where the fact can be best observed; because nowhere else in the world is there so much infective material, nowhere else are the bacilli so potent, nowhere else are people so exposed to the danger, if any exists, and at these places feeding and inhalation experiments, so to speak, are constantly going on; and you will bear in mind that it is the mature cow that is oftenest affected, and it is from her that the largest amounts of milk, butter, etc., are used. A vast amount of work has been done by scientists to demonstrate whether milk from tuberculous cows whose udders were not diseased contained bacilli, and it may be conceded that it does in some cases; they are also present in milk frequently when such milk is obtained from tuberculous udders. Sternberg, in his "Manual of Bacteriology," says: 'A more common mode of infection, especially in children, is probably by way of the intestinal glands from the ingestion of milk from tuberculous cows. That infection may occur by way of the intestine has been proved by experiments upon rabbits, which developed tuberculosis when fed upon tuberculous sputum.' This is the sill in the doorway of investigation, over which many a bright man has fallen. It is assumed that the infant will do exactly that which rabbits and guinea-pigs have done. All the evidence I have thus far collected indicates that it does nothing of the kind. . . . What chances are there in cities for people to obtain infection from cattle, as compared to those just pictured in the country? Even the milk is most infective when freshly drawn from the cow, so far as bovine tuberculosis is concerned; the only way it can be more dangerous to people when served in cities and towns is through its contamination by bacilli from human consumptives. Yet your health laws all aim to protect the citizen; no one has ever suggested a law to protect farmers from infection by bovine tuberculosis. Again, the percentage of deaths from consumption is much higher in cities than in the country or in country towns."

Dr. Moore appends letters from a large number of veterinarians, herd owners and state veterinarian officials, none of whom admit having ever seen any evidence of tuberculosis being the result of using tuberculous milk. In closing he says: "If we have succeeded in purging the bovine of responsibility for human tuberculosis we have severed the relation supposed to exist and which gave origin to the title of this paper. People everywhere will feel relieved. Cattle-owners will vie with the cow-milk drinkers and the beef-eaters in their appreciation of the fact that their minds are now freed from the terrible menace that has heretofore haunted them. The cattle industry will receive new impetus. Physicians will have to educate consumptives to appreciate the necessary precautions they should take, nay, they must take, for the protection of their fellow beings, and healthy people must be made to understand in what ways tuberculous subjects are dangerous to them. The imperative need is for measures for the protection of human from human. Such education will cut down the death-rate more rapidly than medical treatment. The establishment of hospitals and retreats for the treatment and isolation of consumptives is the best step physicians have yet taken for the prevention of the spread of this disease."

In 1896 our able secretary, Dr. E. F. Wells, published a paper in which he proved by statistics, which I have every reason to believe trustworthy, that pulmonary tuberculosis is diminishing in prevalence. In New York, in 1805, there were 5.72 deaths per 1000 from tuberculosis, which ratio had decreased in 1894 to 3.29. In Baltimore, in 1815, the ratio was 4.10; in 1894, decreased to 2.71. In Philadelphia, in 1835, it was 3.52; in 1894, 2.65. In Providence, R. I., in the same year, it was 4.38; in 1894, 2.63. In England and Wales, in 1845, it was 2.77; in 1894, 1.65. In St. Louis, Mo., in 1845, it was 3.60; in 1894, 1.87. In Chicago, in 1845, it was 2.62; in 1894, 1.58.

These figures corroborate the observations of others, that tuberculosis is gradually decreasing in virulence, owing to the improved conditions of living.

Statistics show, on the other hand, that bovine tuberculosis is constantly increasing, and if they are markedly interdependent on each other, they should increase or decrease *pari passu*. The claim does not hold good, however, when we examine the statistics of countries where cattle are not afflicted with tuberculosis to any marked degree. In South Africa, human tuberculosis is extremely prevalent, but a royal commission[5] appointed to examine into the prevalence of bovine tuberculosis has reported that the herds are almost entirely free from the disease. The Gauchos in South America, who subsist almost entirely on beef, are remarkably free from tuberculosis. On the other hand, the Hindoos, who abstain from meats on religious grounds, are being decimated by tuberculous disease. It is the children of the affluent who consume more milk than the poorer children, and yet tabes mesenterica finds its victims largely among the latter class.

A wide review of the literature of the subject leads me to the following conclusions: That we have not sufficient evidence to teach positively the doctrine of the intertransmission of bovine and human tuberculosis by contagion or ingestion of tuberculous flesh, while we must admit there *may* be an element of danger in the use of tuberculous milk. This danger is sufficient to justify us in demanding such laws as will ensure the consumer pure milk, and pure food products, for esthetic if no other reasons. But until the exact degree of danger which attends the use of the milk of tuberculous cows is proven, it is better to teach the public that there are other predisposing and exciting causes of human tuberculosis which, if removed, would tend to eradicate the disease from the human race more rapidly than trying first to eradicate it from the domestic animals. In other words, while we do not attempt to conceal the possibility of the intertransmission of the disease, let this possibility be placed in its proper perspective.

Again, in our fight against tuberculosis, the profession and the public must be a unit. It would be unwise for us to antagonize the masses, as for instance the farmers. That will certainly be the result if we spread broadcast such doctrines as have been almost universally accepted in the past without having been scientifically demonstrated. There is open to us a field of investigation. Let this Society appoint a committee to investigate this question. We have, as members, expert bacteriologists, chemists, sanitarians, pediatrists and internalists, who are competent to grapple with this problem. Let such a committee work in harmony with similar committees from the Illinois Society for the Prevention of Consumption, the Board of Live Stock Commissioners, and the representative farmer associations, and demonstrate, if possible, to scientific exactness, the degree of danger that exists and the best possible ways to avoid the danger without working hardship to the owners of vitiated stock. At the same time, let the work of educating the public as to the best methods of preventing the spread

of tuberculosis among man be carried forward. I believe the best method of educating the public is through the media of home sanitaria. The education which patients get at these is spread broadcast when they return to their homes, for example is better than precept. I also believe we should have a state sanitarium where the consumptive poor of the state could receive the proper treatment, modeled perhaps after the Massachusetts State Sanitarium, where they receive treatment for fifty cents a day. There is already a movement in this direction. Last year, at my suggestion, Col. George C. Rankin, a member of the state legislature, introduced a resolution which authorized the State Board of Health to investigate the advisability of establishing a state sanitarium for consumptives, and report thereon to the Governor before Jan. 1, 1900. In accordance with the spirit of this resolution, a committee of the State Board of Health will report in favor of its establishment. Such an institution would do much to head off the free dispensaries for the treatment of consumptives, which tend only to pauperize the public, and are wholly inefficient as institutions for the treatment of tuberculosis. I would ask the members of this Society to co-operate in all the means which may be employed toward the establishing of a state sanitarium.

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DISCUSSION.

DR. J. M. PATTON—If the Doctor intends his remarks to emphasize his disbelief in the possibility of communication, then I would not agree with him, because the evidence of indirect communication, direct as far as conveying infection through the milk or meat is concerned, is too vast to admit of this belief. While there may be considerable doubt as to its extensiveness, it has an extent which well merits careful investigation. The establishing of some kind of an institution under the state or local government is certainly very timely. There is nothing that we are more in need of than some place of this kind, and there is nothing that brings out so forcibly the paucity of our public institutions as does this one thing. The indigent suffer mostly from tuberculosis, and they are the ones who seek these institutions. It is a crying shame for a civilization such as ours, that we should be without them. It is another question as to what form of government they should be under. The results obtained in the public sanitaria of this country, Canada and Europe fully justify the ground which the essayist has taken. The result in the public institution in Glasgow, one which is located in a climate which is decidedly not the best for tuberculosis, and where the average residence of each member is not over three months, and where the majority admitted are advanced cases, shows very forcibly what can be accomplished by an institution of this kind. It teaches the people how to take care of themselves. It is not necessary to have patients resident all the time in a sanitarium, as one of the greatest benefits to be obtained is, when the patient can come for a time only, staying until he is over the dangerous period in his career as a tubercular patient. Another thing is the knowledge which they gain of how to take care of themselves in their daily life. We could do fully as much, and more, toward controlling tuberculosis by institutions of this character, than in any other way. There are no restrictions which could possibly accomplish as much as an institution such as the Doctor has recommended.

DR. H. M. LYMAN—Human tuberculosis is unmistakably, in the vast majority of cases, due to inhalation of infected matter, and the disease usually begins in the root of the lung, in the lymph glands, whence it spreads to other parts of the body. Its commencement in the alimentary canal is very rare. In connection with the subject of cattle tuberculosis, it is well to remember those cases which Dr. Robison has alluded to. Tuberculosis was a very common disease in the Hawaiian Islands fifty years ago. I remember that the natives were very prone to the disease, but the cattle of the islands were not tuberculous. Neither did the natives use the milk nor the flesh of cattle to any great extent. The foreign residents, who used these articles, were not tuberculous. Among all the young people who grew up there, when I was young, I do not remember a single one who was tuberculous, hence I believe that we must accept cautiously some of the statements that tuberculosis in cattle is communicable to man, unless they are both subjected to the same conditions. Statistics show that tuberculosis has been most dangerous among people who live unhygienically, in illy-ventilated, dark houses, and just as soon as you deprive people of a free open life, you increase the occurrence of tuberculosis. The same thing is true of cattle. As long as they live in the open air, they remain healthy; as soon as they are taken captive and made to live in unventilated stables, they become tuberculous. Cattle kept in the open air generally have owners who live in the same manner, and tuberculosis is rarely found in either man or beast under such circumstances.

DR. J. A. ROBISON, closing the discussion—I wish to correct a misapprehension of my views, as I do not believe that my paper conveys the belief that I am a skeptic in this matter. I believe in the possibility of infection from cattle, but I do not believe that the probability is very great. I would prefer not to make up my mind either one way or the other, until the question has been more scientifically demonstrated. The point which I wish to emphasize particularly is that I do not believe we ought to continually place before the public the idea that the great danger, the one increasing the spread of tuberculosis, is tuberculous milk. I believe that it is one of the secondary causes. Until we have absolute proof of the disease being conveyed from cattle to man, let us keep it in the background and out of the papers. The result of this extensive writing is that the public is positively frightened. As Dr. Evans said, there are nine million dollars worth of cattle in this state that are liable to be condemned because they may be tubercular, and if you kill these without remunerating their owners, what is the result. You block the wheels of progress and you have a fight on your hands; an obstacle which is simply overwhelming. Following out the suggestions, which I made in the paper, you might appoint a committee, calling it the Committee on Tuberculosis, whose duty it shall be to investigate this subject as thoroughly as possible, in order to establish whether or not there is a possibility of communication of the disease.

INFLUENZA.*

BY G. E. CRAWFORD, PH.D., M.D.
CEDAR RAPIDS, IOWA.

I have chosen a somewhat commonplace and hackneyed subject, but it is that which we meet most frequently that is of the most importance to us as physicians.

The people have long since ceased to regard influenza as a joke; and the profession is coming to realize that it ranks among the more serious maladies with which we have to deal. The percentage of reported death-rate is small, yet on account of the vast number of cases the aggregate is very large. Besides, a large majority of the deaths directly due to influenza are reported under the names of the so-called complications and sequelæ which are in fact essential parts of the disease. The average death-rate of a community during the prevalence of influenza is always greatly augmented, and frequently doubled. This comes the nearest to the facts in the case, and shows that during certain periods there are as many deaths from influenza as from all other causes together.

During the first four months of this year there were in Cedar Rapids, a town of 27,000 people, ninety-five

*Read before the Iowa State Medical Society, at Cedar Rapids, 17, 1899.

deaths, according to the board of health's report; and although in only eleven of this number is influenza given as the cause, yet the total number of deaths during those four months when influenza was very prevalent, was one more than double the deaths during the corresponding period of 1898, when influenza was only prevailing in a slight degree. Besides, during the past winter there was comparatively little sickness in the city other than influenza.

Nine years ago last December, when the great pandemic of influenza, or la grippe, swept over this country on its way around the world, the public in general and the lay press in particular jumped at the conclusion that it was a new disease, as they had done before in every previous epidemic. With the exception of the great epizoötic of 1872, which affected almost every horse in this country, and a great many people at the same time, the "epizutic," as it was popularly called, only the older members of this generation had witnessed a general epidemic of contagious catarrh. The first half of this century was attended by numerous epidemics of influenza, many of them being world-wide in extent, and after spreading over Europe, invaded this country through the various ports of trade and immigration.

From 1827 to 1851 these epidemics were especially prevalent. Old men who took part in the exciting political campaign of "Tippecanoe and Tyler too," in the fall of 1840, still talk about the "Tyler Grippe," which everybody had at that time.

Influenza is not a new disease. As early as the ninth century widespread epidemics of "catarrhal fever" or "Italian fever" are matters of history. The disease seems to be referred to by Hippocrates. The very name which has been generally adopted in modern medical literature savors of the superstition of the Middle Ages, when the occult "influence" of the stars and other heavenly bodies was believed to have much to do with the affairs of men. On account of the sudden and mysterious prevalence of the disease, it was termed the "influence"—the "influenza"—which is the simple Italian noun for influence.

The earliest epidemic in England of which we have a full and accurate description occurred in 1510. The earliest one recorded in America occurred in 1647. Most or all of the numerous epidemics which have prevailed in Europe in the past three hundred and fifty years have visited this country.

Scores of names more or less suggestive or facetious have been applied to the disease at different times and places. Cullen and the earlier Latin writers called it *catarrhus e contagio*. The Russian term, la grippe—the seizure—has become the most popular name among the people at the present time, and much employed in medical literature of late years. The great epidemic of 1782 affected the people of Vienna so suddenly and so generally that it received the name of "Blitz Katarrh"—lightning catarrh—and the term is still in use among the Germans. The term "contagious catarrh," or "epidemic catarrh," would be the most suggestive and scientific, were it not for the fact that it describes but one type of the disease, which in many cases is almost or entirely absent. So that after all the old term "influenza," handed down from the superstition of the past, as have been so many of our scientific terms, made classic by long usage, should be set apart exclusively to designate this most interesting and polymorphous disease.

Influenza is so variable in its forms that clinical pictures of typical cases of the different forms would appear to have but little in common excepting the initial head-pain, which seems to radiate to all parts of the body. An intelligent description of the disease therefore would have to begin with a consideration of the types and forms.

Various divisions have been suggested, based mainly on the organs affected. To my mind, the most natural and rational division is into the two types of the disease so constantly observed—the catarrhal and neurotic. These types may in turn be subdivided into forms according to the leading symptoms or parts principally affected; besides the various combination of forms, for there is every shade of blending of these contrasting types and various forms.

The catarrhal type of the disease divides itself into the respiratory and the gastro-intestinal or abdominal, according as the disease spends its force on the respiratory or alimentary muscosæ. The neurotic type may be divided into the cerebral, the neuralgic, the cardiac and the rheumatic forms. And a blending of these types and forms produces a common and serious variety, the typhoid form.

The literature of influenza would indicate that in most epidemics the prevailing type has been the catarrhal. But during the last nine years and five months since influenza has been constantly prevailing here, the two types have been pretty evenly divided, with perhaps a preponderance in favor of the neurotic type.

Influenza is usually described as appearing suddenly and, after a prevalence of a few weeks, subsides as rapidly as it came, and entirely disappears. This latter statement is in my judgment not true. The past nine years have certainly been a marked exception. While it is true that the very general prevalence only lasts a few weeks or months, spending its force and then abating, mainly for lack of material to work on, it still lingers in the locality in scattering cases, firing up into a general epidemic again as the external conditions, whatever they may be, favor its propagation and the persons formerly affected lose their immunity. I think the history of influenza will show that it has prevailed in groups of epidemics covering periods of a number of years. From 1837 to 1851 epidemics were in almost constant progress, as has been the case from 1889 to the present time, although during the first year and the last year of the period there was a much greater prevalence of the disease. During this period I have had the personal experience of about 4000 cases of influenza; about 1000 during the fall and winter of 1889-90, and something more than that number during the past year, with a gradually diminishing number each year between, until last fall, when the disease became as prevalent as in the winter of 1890.

The idea has been almost universal in the profession that influenza only prevailed in the winter, and entirely subsided when warm weather came. This is true in a measure, as it is of diphtheria. There are certain known and unknown external conditions which favor the spreading of epidemics more at one time than at another. A disease whose point of invasion is the mucous membrane of the respiratory organs would naturally have an advantage when these membranes are irritated and congested by cold, and changeable weather. But influenza is not at all confined to winter weather or cold climates. It prevails alike on the snowy steppes of Siberia, or under the soft blue skies of Italy, along the palm-shaded banks of the Nile, and among the fragrant orange groves of Southern California. While it is true that for the past nine years the disease has been more prevalent in winter, there have been numerous cases

during the summer months, many more doubtless than have been recognized. The close resemblance to the milder manifestations of malaria, and the preponderance of the abdominal type of the disease in summer, both tend to obscure the diagnosis. Have you not all experienced a difficulty in determining just when malarial attacks began in the spring, and when la grippe returned in the fall? And those of you who had not thought of influenza prevailing in the summer, do you not recall the fact that last summer you prescribed for an unusual number of "bad colds" and coughs?

Until six years ago the specific cause of influenza was unknown. The numerous descriptions of the disease for the past three centuries agree substantially in the narration of the phenomena and course; and influenza has in all times been regarded as fulfilling all the conditions of a true epidemic. Cullen, writing in the eighteenth century, and who witnessed the great epidemics of 1762 and 1780-82 clearly recognized its contagious character and classed it among the "zymotic" diseases. Notwithstanding the general acceptance of the germ theory of disease for the past fifty years, there still lingered in the profession something of the medieval "influence," if not of some occult power of the stars, some equally unknown telluric or meteoric conditions; and during the epidemic of 1890 various old theories were reiterated, as an excess of moisture, ozone, etc., and little was said or thought about the personal infectious and contagious character of the disease.

Renewed investigation in the light of bacteriology fully confirmed its specific and contagious character. Pfeiffer of Berlin discovered the diplobacillus of influenza in the winter of 1893. His discovery has been verified by numerous investigators since, and is now readily demonstrated by any bacteriologist. The bacilli are found in enormous quantities in the nasal secretions at the beginning of the disease, and later in the bronchial sputum and in the blood, and the greater the number the more serious the case. Post-mortem, they are found in every tissue and fluid of the body, but seem to have an elective preference for nerve tissue. The germ is strictly anaërobic, and in cultures grows readily on blood-agar, or culture-media containing hemoglobin, which seems necessary to its development. Primarily a diplobacillus, it changes its form somewhat in successive cultures, first assuming more nearly the form of a true bacillus and later that of streptobacilli. The Pfeiffer bacillus is frequently found associated with other pathogenic germs. The recent very valuable investigations of Dr. Wynekoop of the Chicago Department of Health have shown the influenza bacillus present in cases of diphtheria, scarlet fever, measles and pneumonia; and the clinical behavior of the cases was difficult to understand until microscopic examination revealed the presence of mixed infection. And in cases where mixed infection was discovered in the beginning, the subsequent clinical course of the cases fully coincided with the diagnosis.

Influenza is extremely contagious and infectious. It is communicated by direct contact with a person affected with this disease or by infected fomites, as are measles, whooping-cough and scarlet fever. There is no evidence that the atmosphere is ever a medium of communication further than it conveys the breath or emanations of an affected person. The disease spreads not by the wind, as was formerly supposed, but from person to person; and in our day of rapid transit it may be carried to opposite sides of the continent within a single week.

The beginning of the present group of epidemics, starting out from the region of St. Petersburg, where influenza is always endemic, in September, 1889, reached the confines of civilization before the close of the year. The disease was in full blast in Cedar Rapids before Christmas; and appeared almost simultaneously throughout the United States along the main routes of travel. When we realize that Chicago is only twenty-four hours from New York, and points throughout the Middle West but a few hours' travel from that metropolis, and that a single person may infect a whole train-load of people, and they in turn as many homes and hotels, we can form some idea of the marvelous rapidity with which so contagious a disease can be spread about, simply by immediate presence.

The characteristic clinical picture of influenza is so familiar to all that a detailed description is unnecessary; besides the narrow limits of this paper will only permit a mention of the more contrasting symptoms of this many-sided disease. The length of the incubative stage is difficult to determine, as it is without symptoms, and the time of infection is generally unknown; but it is short, and probably varies from one or two days to a week. When a case enters a family all of the household are usually affected within a week, and often all are sick at once. The disease almost invariably begins with rigors, or a distinct chill, a dry sore throat, and headache which soon becomes excruciating, the pain radiating to every part of the body, with a condition and degree of prostration entirely out of proportion to the general symptoms and duration of the illness.

In the catarrhal type and the bronchial form, coryza and the general train of symptoms of a severe bronchitis rapidly supervene; a hoarse, tight, painful cough, which in many cases is very distressing. The fever is usually quite high, ranging from 103 to 105° F. during the acute stage. The initial headache, present in all forms of the disease, is not generally so severe in the catarrhal as in the neurotic type, the muscle pains and bone-ache causing the most suffering at the onset. There is tumefaction of the cervical glands, and occasionally the swelling at the angles of the jaw simulates mumps. The pharyngitis, always present in some degree, is very severe in some cases, with a tonsillar exudate greatly resembling some cases of diphtheria. Dr. Wynekoop, in his report previously alluded to, mentions cases of this kind which had been clinically diagnosed as diphtheria, in which a bacteriologic examination revealed the presence of Pfeiffer's bacillus; and the subsequent course of the cases confirmed the diagnosis of influenza.

One of the most distressing extensions of the catarrhal process is the invasion of the Eustachian tubes, and inflammation of the middle ear. The most serious of the catarrhal processes are bronchitis and pneumonia. The pneumonia of influenza is a peculiar specific affection, and an essential part of the disease. The bronchitis and bronchopneumonia and the peculiar circumscribed pneumonia of influenza are specific inflammatory processes directly due to the Pfeiffer diplobacillus. Real lobar pneumonia due to the diplococcus pneumoniæ is not a common accompaniment of influenza; and when it does occur is a coincidence and not an essential part of the disease. Circumscribed pneumonia occurs in a very large percentage of catarrhal influenza and is very often overlooked. Most of the physical signs of pneumonia are lacking. The area of solidification is usually deep seated, and inside of and just below the angle of the scapula. Auscultation at that point will detect bronchial breathing. It can seldom be heard in front. When the area is small, resonance is rather augmented, and bro

something of a tympanitic character. When the area is large, it is attended with the usual physical signs of hepatization.

When the temperature persists in keeping up to 104 or 105 F., in spite of the ordinary measures, for three days, with pain in the chest, and difficulty in breathing, you may be sure you have this circumscribed pneumonia, although repeated physical explorations had failed to reveal it; and you will generally find it hiding behind the shoulder-blade. Both lungs are frequently affected. I know of no lung lesion of the same extent attended with such marked general symptoms. Bronchopneumonia or lobular pneumonia of influenza, where numerous lobules and small areas all through the lungs are blocked, is the most serious condition of catarrhal la grippe, and is very fatal in old people and young children. Convalescence is very slow; the lung may be permanently damaged, and presents a most inviting condition to subsequent tubercular infection.

The cough in many cases of influenza is very hard and spasmodic in character and simulates whooping-cough.

The abdominal form of catarrhal influenza has been unusually prevalent the past year. Added to the primary headache and fever and prostration, there is vomiting, cramping pains in the abdomen, and frequently profuse diarrhea—the general symptoms of cholera morbus. Small children are very likely to have convulsions.

In the contrasting type of influenza, the neurotic, the catarrhal symptoms are very slight or entirely wanting. There is, however, usually a sore throat. The headache is more intense and severe. Mental depression and general prostration are more marked than in the catarrhal, and are especially manifest in that variety classed as the cardiac form. Pain and distressing sense of constriction of the back of the neck is a frequent symptom of the neurotic type of the disease—a feeling as though the base of the brain was in a vise or a veritable giant's grip. This symptom is a very persistent one, and denotes serious damage to the lower centers of the brain or the medulla, often of a lasting or permanent character. I know persons who suffered from this condition nine years ago, whose nervous systems were so permanently damaged that a little overdoing, or too close application, can bring back this pain any day, with its attending languor and prostration.

The cerebral form is comparatively rare, but a very serious variety of influenza. The condition is probably usually toxic, but meningitis, and various inflammatory conditions of the brain, not well understood, are met with. I have recently had two fatal cases occurring in my practice. There is marked mental hebetude, delirium, and even mania, and in children, convulsions. In addition to the encephalopathies, myelitis, neuritis, and various nervous affections may appear. Apoplexy and paralytic strokes are frequent results of influenza in persons predisposed to these conditions. Well-marked cutaneous eruptions simulating the eruptive fevers are not of infreqent occurrence, probably due to the toxic effect on the trophic nerves.

The rheumatic form takes on the symptoms of either myalgia or inflammatory rheumatism, and occurs in persons of a lithic or rheumatic diathesis. It is an obstinate form of rheumatism and very prone to relapses.

The cardiac form, so-called, is manifested by great prostration, and heart weakness. It may be associated with the rheumatic form as an endocarditis; but it is usually an extreme functional weakness, which does not readily respond to heart tonics. It is probably a toxemia as is the general prostration of influenza. In persons with fatty muscles and atheromatous cardiac vessels it is very serious and often fatal. Few cases of influenza present one single typical form of the disease. There are endless combinations of these various forms, and some severe cases have them all during the progress of the disease.

There is a wide difference of opinion concerning immunity from subsequent attacks. Some go so far as to assert that one attack predisposes to other attacks rather than immunizes. I think this is an extreme view, and has its origin in confounding relapsing and chronic cases with new attacks of the disease. Influenza, like malaria, may remain in the system a long time, with frequent outbreaks and manifestations. A person who is said to have had three or six attacks of influenza within as many months has never recovered from the first attack, and has simply had relapses.

Immunity, while not permanent or of long duration in many cases, probably varies from several months to several years. I believe it is quite unusual for a person who has really recovered from the disease to have another attack in less than a year. Those who do are nearly all chronic or relapsing cases and if careful inquiry is made it will be found they have had manifestations of the disease during the interval. Tilaloff has observed several cases of influenza where there was "continuous slight fever for five months, and in two, intermittent relapses occurring at intervals for several years."

Every case of influenza should be regarded as serious, and the patient should be confined to bed until the fever and active symptoms have completely disappeared. Complete rest and proper treatment at the very beginning is of the utmost importance. The foolish notion so often tried, of "working it off," greatly aggravates the case and often precipitates the most serious forms of the disease.

The treatment of influenza is mainly symptomatic; but there are few diseases where judicious treatment is more important or beneficial. We know of no specific, in a true sense. Quinin has been given largely with that view, but, except in small tonic doses, it is useless and adds greatly to the discomfort of the patient during the acute stage. Quinin and whisky, formerly so much used by the people at the beginning of the attack, is worse than no treatment, and has sent many a case to the doctor which otherwise would have recovered unaided. Some of the coal-tar derivatives give marvelous relief from pain during the onset of influenza; but if not carefully employed will add to the prostration and cardiac weakness. Phenacetin as an analgesic and antipyretic is the best and safest of this class of remedies when large doses are required.

A favorite prescription of mine, which I have used very largely and have prepared in quantities in gelatin-coated pills, is the following: each pill contains

Acetanilid	gr. ii
Caffein	gr. ss
Camphor monobromid	gr. i
Capsicum	gr. ss

One of these, repeated every hour, for two or three times, gives almost complete relief from the suffering in ordinary cases, and produces no depression. When the fever is high and headache severe, a single full dose of phenacetin, followed by these pills as required, has been the most satisfactory palliative treatment I have found, for the large majority of cases.

European writers especially have lauded the curative virtues of salophen. I have tried this remedy repeatedly, but have been invariably disappointed. In the

rheumatic form, where it would be expected to do the most good, I have found it in every way inferior to salicylate of soda. Small repeated doses of calomel, carried to mild purgation, are beneficial at the beginning of almost all cases. The main indication for treatment, after the relief of suffering, is supportive, from the beginning, to counteract the extreme prostration which sets in almost immediately with the attack. Tonic doses of quinin, iron and strychnia meet this indication better than anything else in a majority of cases. Another favorite prescription which I use in almost every case in adults is a little "No. 3" capsule containing

Quinin	gr. i
Cinchonidia	gr. i
Pyrophosphate of iron	gr. ii
Strychnia sulph	gr. 1/40

One of these is given four times a day, or every four hours as indicated. Some cases require special nerve and cardiac tonics. A useful prescription in heart weakness is

Tr. strophanthus	gtt. iii
Tr. cactus grandiflorus	gtt. xii

Give three to six times in twenty-four hours. In children, with whom bronchitis is usually the leading feature, muriate of ammonia with ipecac in syrup of tolu is a most valuable remedy. Opiates are not often indicated in influenza, excepting morphia with atropia hypodermically to relieve obstinate neuralgic pains; and Dover's powder in some cases of painful cough. The pharmacopeia is very rich in general and special tonics, and may be drawn upon to meet the requirements of the various conditions, or suit the fancy of the prescriber. Bark, iron, strychnia, arsenic and phosphorus represent about all the virtue of this class of restoratives.

PHYSICAL STANDARDS OF NATIONAL GUARDSMEN.*

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The object of this paper is to elicit discussion and lead up to uniformity of action in all the states. That I may conserve your time, I shall be brief, and beg that my brevity may not be mistaken for dogmatism.

Political history demonstrates that every nation has frequent crises in its affairs when the show of armed force is necessary. Ability to rapidly mobilize a formidable fighting force makes for peace. Industrially and commercially that country is the strongest which can spare the largest per cent. of its men to civil employments. The policy of territorial expansion beyond seas, by whatever form of government adopted, has always required a larger military establishment than would have been required had the same territory been contiguous to the mother land.

This counry must then in its present situation be either equipped with a large standing army or cultivate within its industrial class those qualities of mind and body which best prepare for service under arms. The military surgeon has a duty to perform in enlightening the public as to the exact physical qualifications for service in the regular army, and to point out how the youth may develop themselves so as to make good soldiers if their country calls.

Before discussing the qualifications for service in the National Guard, permit me briefly to call to mind the duties for which applicants must prepare themselves. They represent the moral and physical force on which the governor of the state depends for preservation of law and order, to suppress riots and insurrections and to repel invasion. The dignity and responsibility of such duties need not be dwelt on, but should always be incorporated into the very being of the citizen soldier. Any personal sacrifice he may make is as nothing when compared with the good of the service and the honor of his State. But the real duty of the guardsmen does not stop at the state line when the nation is involved in war. They should be the first in the volunteer service, and whether they go out as regiments or individuals should be left to the U. S. War Department. There the probable scope of the war is better known than elsewhere. If few regiments are required, they may be called out en masse. If many will be needed, separate enlistments are preferred, since skeleton regiments of guardsmen can be filled with raw recruits.

The difference between ordinary national-guard discipline and that of the army on war footing has to be reckoned with in the officering of troops in the field. The better the discipline in any regiment, and the more closely the physique of it conforms to the regular army standard, the more likely is it to be called out with its own officers in case of need. Line officers should remember that care of the health of their commands and reports to headquarters are important elements in determining their efficiency.

It may be conceded that some of the functions of the National Guard may be just as well performed by men not up to the army standard in every particular. For service in street riots, where action must be at close quarters, the high standard of eyesight is not required, and dependence on glasses does not impair a man's usefulness. Here, the same maturity and seasoning is not imperative. The troops are usually quartered in comfortable barracks or camped in very favorable locations, and many of the hardships of field service avoided. The guardsman will probably not see hard service and a very important part of his work will be to develop his physique so he can do the full work of a soldier. The bones, muscles and vital organs have not developed fully enough for the severe work involved in active service before the age of 22 years, but it is acknowledged that younger men more readily acquire the drill and habits of discipline so necessary for the soldier. The recruit should therefore be enlisted at 18 or 19, if sound, and possessed of a physique promising the full army standard at maturity. To that end a careful physical examination should be made and the record preserved. After two or three years of weekly drills, and two or three short seasons of actual work in camp, the guardsmen should be eligible to enlistment in a body of men selected with the greatest care as to mental, moral and physical qualifications, of mature age and with considerable military experience. They should be enlisted and equipped for active service at any time and might be called "minute men" or "veteran guards." Their colonel should be a regular army officer, and they should each year have a tour of duty for at least a month, at some regular army post. For these men the standard of the United States Army in time of peace is none too high.

For the ordinary national guardsman we will consider in what respects the army standard may be departed from without endangering the efficacy of the guards. For many reasons a minimum qualification should [illegible] vanced, and all men w[illegible] n reasonal[illegible] rp[illegible]

*Read before the Association of Military Surgeons of the U. S., Kansas City, Mo., Sept. 27, 1899.

develop up to the required standard on devoting themselves to the drills should be accepted. On the other hand, all who would be likely to break down at the first severe test must be rejected. Besides the exact physical condition of the recruit, his family and personal history must be investigated and the diseases from which he has suffered considered. With these favorable, we may, after a careful physical examination and accurate measurement of height, weight and chest description and measurement, predict very accurately what the average youth of 18 will be at 22. Upon this postulate I shall base the following outlines. At 22 he may be expected to be from one to two inches taller in total height. The distance from the center of the symphysis pubis to the upper border of the breast bone (chest fully expanded) is a most important measurement, and one which, taken with the girth at the navel and horizontally at the angle of the scapula at inspiration, forms the basis for a very accurate calculation of the capacity of the space occupied by the organs of circulation, respiration and nutrition. This sterno-pubic measurement has the advantage of but a slight variation between 18 and 22 years of age. The chest at inspiration will average 1 1/3 inches more at the latter age, and the girth of the abdomen will have increased slightly less. The total height may be expected to increase about 1½ inches, mainly by the natural growth and ossification of the epiphyses (chiefly the lower epiphysis of the femur and the upper epiphysis of the tibia and fibula). Since complete union of these epiphyses does not always take place before the age of 25, height may be increased by lengthening of the legs up to that age.

The average weight for the American male at the age of 22 will be estimated by allowing two pounds for each inch up to sixty-seven inches, and five pounds for every inch above this. After twenty-three years the same rule holds true except that seven pounds per inch above sixty-seven must be figured. About twenty-five pounds above and below these averages seems to be incompatible with good health and physical vigor; yet when the recruit's weight approaches either of these extremes his physical examination should be made most circumspectly, particularly if the younger man approaches the maximum or the older one the minimum. If the minimum figures are approached without other explanation, analysis of the urine should be made to exclude diabetes, and symptoms of tapeworm should be looked for. In approaching the maxima, the ratio of adipose tissue to muscle should be estimated.

Actuaries of life insurance companies have made a close study of the relations of height to weight in reference to longevity in civil life, and their most approved table is given below.

Height.	Minimum Weight.	Maximum Weight.
63 inches	106	160
64 inches	111	167
65 inches	114	170
66 inches	116	174
67 inches	118	178
68 inches	124	186
69 inches	130	194
70 inches	135	203
71 inches	139	209
72 inches	142	214
73 inches	147	220
74 inches	151	226

In applying these figures to military use, it must be remembered that these are taken in ordinary clothing, and a reduction of about one-eighteenth must be made to allow for the clothes.

THE TREATMENT OF ANEURYSMS BY SUBCUTANEOUS GELATIN INJECTIONS.

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The year 1898 added still another to the many methods that have been advanced to the treatment and cure of aneurysms. To Lancereaux of Paris is due the credit of having introduced this method to the medical profession. The treatment in question consists in the injection of sterilized solutions of gelatin into the subcutaneous tissues.

The method is based on the experimental work of Dastre and Floresco[1], who studied the effect of gelatin solutions on the coagulability of the blood. These observers went only so far as to show that the coagulability of the blood was increased when the gelatin solution was brought into direct contact with it, whether this be the circulating blood of the animal or the blood of the animal after removal. They found that the injection of gelatin solutions into the blood-vessels of dogs and rabbits caused a rapid coagulation of the blood. They employed for their experiments 0.8 gram of gelatin per kilogram body weight of the animal, in 5 per cent. solution, 0.8 per cent. sodium chlorid solution being used as the dissolving medium. The gelatin solution, however, did not possess the power of neutralizing the anticoagulative action of oxalates and other strong salt solutions. A definite antagonism existed between the coagulative effect of the gelatin and the anticoagulative effect of the proteoses and propeptone. The coagulative action of the gelatin was to the anticoagulative action of Witte's peptone as 1 is to 3.

Camus and Gley[2] were able to confirm the observations of Dastre and Floresco. They did not believe that the increased coagulability of the blood was due to any specific action of the gelatin, but rather to the acids which the gelatin contained. By neutralizing the acidity of the gelatin with sodium carbonate, they claimed that it lost its coagulative action, and that this action was increased by increasing its acidity. According to Camus and Gley, the antagonism of gelatin and propeptone is due to the acidity of the former and the alkalinity of the latter. Floresco[3] agreed in part with the explanation of Camus and Gley, but still insisted that the effect of gelatin was not due to the acid it contained, though in large part to a specific action which it possessed.

Although Dastre and Floresco were the first to demonstrate that gelatin increased the coagulability of the blood when brought into direct contact with the latter, Lancereaux was the first to show that the same effect could be obtained by the injection of the gelatin into the peritoneal cavity and subcutaneous tissue. He proposed to use this action of gelatin as a therapeutic agent in the treatment of aneurysms.

Lancereaux[4], in association with Paulesco, first brought this method of treatment before the members of the Academy of Medicine, in Paris, in June, 1897, and subsequently in October, 1898. They[5, 6] reported five cases in which they had adopted the treatment.

Technic of Giving the Injections.—Lancereaux gives the following directions for the making of the gelatin solution and the giving of the injections. The solution is made by dissolving 4-5 grams of white gelatin in 200 c.c. of 0.7 per cent. sodium chlorid solution, and steriliz-

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ing thoroughly at 120 C. The flasks are kept for several days at a temperature of 38 C., and any in which the gelatin becomes turbid or fails to harden in the cold are discarded.

For giving the injections he uses a 500 c.c. sterilized flask, with a tight-fitting rubber stopper through which two glass tubes pass. One of the glass tubes extends to the bottom of the flask and is connected by rubber-tubing, with a proper-sized needle. To the other short glass tube a stiff rubber inflating-bulb is attached. In order to purify the air a glass bulb filled with absorbent cotton is interposed between the rubber bulb and the flask. The temperature of the gelatin solution must be 37.6. According to Lancereaux, no pain should be produced by the injections. With proper asepsis and antisepsis there should be no general nor local reaction. After the injection the patient should have absolute rest, and palpation of the aneurysm must be avoided. The injections are made at intervals varying from two to fifteen days. Lancereaux thinks that best results are obtained by giving them every sixth to eighth day. He states that, generally speaking, ten, fifteen or twenty injections are necessary to effect a cure. He advises injecting the gelatin solution into the subcutaneous tissue of the thigh, and never into or in the vicinity of the aneurysmal sac.

Huchard emphasized the importance of aneurysm patients taking the proper sort of diet. An essential point in the treatment is the lessening of the arterial tension. For this reason all sorts of food which tend to produce toxins having a vasoconstrictor action must be avoided. Bouillon, fat soups, meat, fish, particularly sea-fish, and cheese must not form a part of the patients' dietary. Alcohol, tea, coffee and tobacco are also forbidden. A strict milk diet is preferable, but fruits and leguminous foods may also be permitted. Drugs which cause a dilatation of the blood-vessels, such as iodids and nitrites are also useful.

Of Lancereaux's five cases, three were reported as being cured. In these cases the aneurysm was saccular in form. The other two, which terminated fatally, were instances of diffuse dilatation of the arch of the aorta.

In order that the effect of the injections in Lancereaux's cured cases may be better appreciated, I purpose giving a brief summary of the cases and the effect of the treatment.

MALARIA. AORTITIS WITH ANEURYSM OF THE ARCH OF THE AORTA; SUBCUTANEOUS INJECTIONS OF GELATIN. CURE.

CASE 1.—The patient was a man, 50 years of age, with malaria nine years ago; no syphilis nor arteriosclerosis. For three years he had an aneurysm of the ascending aorta; right intercostal neuralgia and angina pectoris for six months; visible pulsating; tumor to right of sternum for one year; second to fourth costal cartilages and the greater part of the sternum eroded; definite systolic expansile pulsation. On auscultation both heart sounds were audible, but no murmurs. The radial pulses were equal. The patient could lie only on the right side; change in position caused cough, huskiness of the voice, and a sense of anxiety and feeling of oppression in the chest. There had been rapid growth of the aneurysm and ecchymoses had occurred in the skin over the aneurysm.

Jan. 20, 1898: Subcutaneous injection of 250 c.c. 5 per cent. gelatin solution. On the following day the aneurysm was firmer. For several days it diminished in size and then became larger and soft.

February 10: A second injection of 150 c.c. 1 per cent. solution of gelatin. The aneurysm again became smaller and firmer. Pain disappeared and angina pectoris ceased. He could change position without discomfort.

From February 10 to May 12, twelve injections were given, with the following result: Marked diminution in size of the tumor and cessation of the pulsation. The patient was able to work. After one year, intercostal neuralgia again returned, and the lower part of the tumor again began to grow and become soft. After two injections these manifestations subsided and the aneurysm became firmer. After the lapse of one month the pain and pulsation again returned, to disappear again after a single injection. The last two pulsations which appeared were not due to a return of the pulsation in the original aneurysm, which remained hard and free from pulsation, but to the development of two new aneurysmal dilatations beneath it.

Although Lancereaux regards this case as having been cured, the result is not so satisfactory as one would desire to have it.

ANEURYSM OF THE ARCH OF THE AORTA. CURE.

CASE 2.—The patient was a man 48 years of age; eight months previously he had suddenly felt something burst in the upper part of the chest, and expectorated a small quantity of blood. Since then he had complained of severe pain and a sense of oppression at the same point whenever he lifted anything heavy. The veins were dilated over the right side of the thorax; pulsation in the second right intercostal space, where a soft systolic murmur was audible. Both carotids and radial pulse equal. On May 20 he was given an injection of 200 c.c. of a 2 per cent. gelatin solution; up to August 1, ten such injections were given, one each week. The systolic murmur, the pulsation, the dilatation of the veins and the subjective symptoms disappeared. Two injections were given subsequently and the patient was discharged cured.

ANEURYSM OF THE RIGHT SUBCLAVIAN ARTERY.

CASE 3.—A coachman, 50 years of age, in July, 1898, suddenly began to experience a creeping sensation in the right arm. During the following days he suffered intense lancinating pain and still later the motor power of the right arm became impaired. He had never had lues. Beneath the right clavicle, to the outer side of the scalenus anticus muscle, a distinct pulsating tumor, the size of a nut, was visible; no pulsation in brachial or radial artery; the right arm felt warm, the last phalanges were thick and the finger-nails deformed.

Jan. 18, 1898: Subcutaneous injection of 200 c.c. of a 2 per cent. gelatin solution. Up to April 9 eleven injections had been given. After the first injection the aneurysm became harder; following the third, two soft murmurs were audible, which were not previously present; the pain disappeared. The patient was permitted to move his arm and the aneurysm again began to soften, pulsate and grow larger. After two subsequent injections the aneurysm became firm and the pulsation disappeared. From May 1 to June 20 the patient received nine injections. On July 5, a weak but definite pulse was felt in the right radial. The radial pulse became subsequently inappreciable, to appear again after two injections were given. The patient left the hospital on August 13, able to work.

As already stated, the other two cases were instances of diffuse dilatation of the aortic arch, and, although they were given several gelatin injections, no improvement resulted and both terminated fatally. One died

of coma and in the other the aneurysmal dilatation ruptured into the posterior mediastinum.

In all five cases there was no local reaction following the injections; there was no elevation of the temperature and the injections were not painful. In the two fatal cases no serious consequences occurred which could be attributed to the gelatin injections.

That the gelatin injections are not entirely without danger to the patient is suggested by the cases reported by Boinet and Barth.

Boinet's[7] patient, a man aged 33, had an aneurysm of the ascending portion of the aortic arch. Not having improved under the iodids, he was started on the gelatin injections. As a result, fibrin was deposited in the lower part of the aneurysmal sac, leading to compression of the pulmonary artery. This compression, in the opinion of Boinet and Huchard, led to double-sided pulmonary tuberculosis. Three months later evidences of compression of the superior vena cava appeared, and a few days subsequently the patient died. The autopsy showed that the lower part of the sac was coated with a layer of firm coagulum 6 cm. thick. There was a deposition of fibrin in the adjacent portion of the pulmonary artery and the lumen of the artery was markedly narrowed.

In Barth's case, referred to by Huchard, the aneurysm was also situated in the ascending portion of the arch of the aorta. After the sixteenth injection, the temperature became elevated and a large abscess developed at the seat of inoculation. Two months after the treatment had been started the patient suddenly felt suffocated, anxious, weak, and fainted. She remained in a semi-comatose condition until her death. The autopsy showed that the aneurysmal sac was completely filled with a clot easily separable from the sac wall. Firm clots had also extended into all the branches of the aorta, excepting the left subclavian, causing an acute anemia of the brain, and sudden death.

Huchard[8] thinks that these two cases show not only the remarkable coagulative power of the gelatin, but also the danger of the method. For the latter reason and from the fact that in one of his own patients the injections of the 2 per cent. gelatin solution caused intense pain, he recommends the substitution of a 1 per cent. gelatin solution injected at intervals of not less than eight to ten days. Absolute rest on the part of the patient is very essential.

Lancereaux would not agree that Boinet's and Barth's cases died as a result of the effect of the injections. He stated that the coagulation in the aneurysmal sac, in Boinet's case, should diminish rather than increase the compression on the pulmonary artery. In Barth's case he believed that the symptoms preceding death were those of uremia and that the clots in the aortic branches were agonal or post-mortem in formation.

In the opinion of Lancereaux, the subcutaneous injection of gelatin solutions is followed by the absorption of the gelatin into the circulation with the result that the blood coagulates much more easily. With this increased coagulability of the blood, there exists in the aneurysmal sac two conditions which predispose to the coagulation of the blood, viz.: a slowing of the blood-current and an unevenness of the vessel wall. The contraction of the clot thus formed leads to a diminution in the size of the aneurysmal sac, following which there is a disappearance of the compression symptoms. If the clot becomes separated from the sac wall, then the blood forces its way between the sac and the clot, and the aneurysm again begins to grow. In diffuse dilatations of the aortic arch, such as occurred in the fourth and fifth cases of Lancereaux, there is little or no slowing of the blood-current and clot formation does not occur even with the gelatin injections.

Lancereaux's report before the Academy of Medicine, in Paris, of his method of treating aneurysm, created considerable discussion. The main point at issue was whether the gelatin was actually absorbed, and if so, in what manner? The views advanced were very conflicting. Laborde holds that the gelatin solution is not really a true solution but a suspension of the gelatin in very fine particles, as can be demonstrated with the microscope. If absorption takes place it must be of the nature of a diapedesis. He is inclined to support the view that the repeated injections lead to the absorption of large amounts of fluid, which, through a change in the blood-pressure or from some unknown change in the blood itself, influence its coagulability. He thought that possibly apeptinization of the gelatin occurred before absorption. He advises that the gelatin injection should be made into the sac itself, or into its immediate vicinity. Lancereaux insisted that the gelatin was an actual solution and did not think that the amount of fluid absorbed with each injection could have any influence on the blood-pressure. He thought that the injection of gelatin solution direct into the aneurysmal sac would be exceedingly dangerous. He believes that the gelatin is absorbed from the subcutaneous tissue by way of the lymphatics.

Camus and Gley[9] injected gelatin into the peritoneal cavity of rabbits and, contrary to Lancereaux's results, found no increase in the coagulability of the blood. They further held that even two hours after the injection was made, practically the full amount could be recovered from the peritoneal cavity. Lancereaux again repeated and confirmed his experiments and showed that the substance recovered by Camus and Gley was not gelatin solution but a fluid rich in albumin and fibrin. When these are first precipitated it will be found that only a fraction of the original amount of gelatin injected can be recovered.

It will be seen from the above that the results of the experimental work in gelatin injections have been most conflicting. The opinion of one good observer is pitted against that of another. There seems little doubt, however, but that the gelatin injections do cause a distinct increase in the coagulabilities of the blood.

Sorgo[10], who had recently impartially reviewed the literature on the subject, states that there is little doubt that the gelatin injections cause a rapid and sure coagulation of the blood in saccular aneurysms. This is attended by no serious dangers when the patient observes the prescribed rules for dieting and rest.

With the object of giving the gelatin treatment a trial, Dr. Osler commenced its use in a series of aneurysm cases admitted to the medical wards of the Johns Hopkins Hospital. Following Lancereaux's latest directions, we have used 250 c.c. of a 1 per cent. solution of white gelatin in physiologic salt solution at each injection. In the early cases the injections were made every other day, but subsequently they have been given every fifth day. They have been given either into the subcutaneous tissue of the thigh or into that of the abdominal wall. Frequently the injections were much less painful in the latter than in the former situation. Instead of following the technic of Lancereaux, we have used, as a satisfactory substitute a 50 c.c. syringe, five syringefuls being injected, care being taken not to introduce any air. The injections were made under the strictest aseptic precautions. The solution must be in-

troduced slowly, otherwise it will cause considerable pain. It is not absorbed so readily as normal salt solution.

Since October, 1898, the treatment has been commenced on nine aneurysm cases in all. In only the first six of these patients had the injection been given sufficiently long for the treatment to have had a fair trial. In all the cases the blood coagulation time was taken by means of Wright's coagulation tubes immediately before and six hours after each injection was made.

ANEURYSM OF THE ARCH OF THE AORTA.—SIX SUBCUTANEOUS GELATIN INJECTIONS.—SUDDEN DEATH BY RUPTURE OF THE ANEURYSM INTO THE LEFT BRONCHUS.

CASE 1.—J. B., a laborer, aged 27, was admitted to the Johns Hopkins Hospital, for the second time, Oct. 7, 1898, complaining of severe pain over the precordial and scapular regions. Cough, difficult swallowing and huskiness of the voice were prominent subjective symptoms. A distinct saccular aneurysm of the aortic arch projected forward in the first, second and third left interspaces, causing a distinct tumor which possessed an expansile pulsation. There was dulness on percussion in the upper left interscapular region, posteriorly. An interesting physical sign was the presence not only of a palpable but also of a visible tracheal tugging.

From November 2 to November 15, six gelatin injections were given. The majority were attended by intense agonizing pain at the seat of injection, lasting up to and most intense six hours after the injection. Those made into the abdominal wall gave least pain. The blood coagulation time was taken only once in this case, namely, before and four hours after the sixth or last injection, on November 15. The coagulation time before the injection was seven minutes, and after it was only four minutes, showing a reduction of three minutes. At 8 p. m., November 16, the patient died of a severe attack of hemoptysis, about 600 c.c. of blood being expectorated.

The autopsy revealed a general dilatation of the aortic arch with a localized saccular aneurysm at the junction of the transverse and descending portions of the arch. At the point of pressure of the sac on the left bronchus there had been a perforation causing the hemoptysis and sudden death.

ANEURYSM OF DESCENDING THORACIC AORTA; FIFTY-SIX GELATIN INJECTIONS; MARKED DIMINUTION OF THE PAIN; DIMINUTION IN SIZE OF THE ORIGINAL ANEURYSM. PATIENT STILL UNDER TREATMENT.

CASE 2.—U. C., a laborer, aged 42, was admitted to the hospital for the third time, Nov. 5, 1898, complaining of severe pain in the abdomen and back. There was considerable pulsation over the lower left submammary region, and a quite marked pulsation in the lower part of the left interscapular and upper subscapular regions. The patient suffered intense pain in the left submammary region, and usually lay on his face with a pillow pressed against the epigastrium. A diastolic and systolic murmur had been heard over the pulsation in the back, on a previous admission. There was cardiac hypertrophy and considerable extension of the cardiac flatness to the right of the sternum. The first gelatin injection was given on November 9, and was followed by an elevation of the temperature to 100 F. After two other injections, the second and thirty-fourth, the temperature also became elevated, reaching to 101.7 and 100.6 F. respectively. After the thirty-fourth injection there was also a distinct rigor. There was no local reaction. From Nov. 9, 1898, to May 21, 1899, the patient had received fifty-six injections. There had been almost an immediate diminution in the pain as soon as the injections were started. The pulsation in the front and back had distinctly lessened, but during the last three months either the same or another aneurysm has pushed the heart forward and now has caused a distinct bulging and pulsation in third and fourth right interspaces, between the lateral, sternal and mammillary lines. In the majority of instances there was a diminution of the coagulation time, after the injections. An interesting feature of this case is that for several days during the treatment the coagulation time, both before and after the injections, was markedly delayed, as compared with normal, the average time being about twenty minutes. This was the case at the time of the twenty-third injection on Dec. 30, 1898. On this day the fresh blood was diluted with Hayem's solution, and examined for platelets and none found. On January 5, when the coagulation time had dropped to seven and one-half minutes, the blood contained numerous platelets. These observations seem to suggest a definite relationship between the coagulation time and the number of platelets. Although this patient has gained twenty-five pounds since the treatment was commenced, and although the pain has been much less, we can do no more than state that the original pulsation has diminished and the subjective symptoms have lessened. The number of injections given, fifty-six, was nearly three times the maximum number regarded by Lancereaux as necessary to effect a cure.

ANEURYSM OF THE ABDOMINAL AORTA; TWENTY-ONE GELATIN INJECTIONS; NO APPARENT IMPROVEMENT.

CASE 3.—O. G., a farmer, aged 47, was admitted to the hospital for the third time, on Oct. 23, 1897, complaining of pain in the right side of the abdomen, just below the margin of the ribs, and of pain shooting down into the hips. He also suffered intense pain in the left lumbar region of the back. He was in the hospital for the first time, in October, 1896, with mitral and aortic insufficiency. The pain already described had been complained of for eight months previous to his admission. He was admitted a second time in March, 1897, when an aneurysm of the abdominal aorta was diagnosed. On the third admission there was marked cardiac hypertrophy with mitral and aortic insufficiency. In the epigastrium, slightly to the left of the median line, there was a distinct pulsation of an expansile character. There was no palpable thrill, but a distinct systolic bruit over the pulsation. A definite, visible and palpable pulsation was present in the lower part of the left back. The first gelatin injection was given on Nov. 9, 1898. After the second injection the temperature rose to 101.9 F.; there was no local reaction. Following two subsequent injections there was a distinct rigor with an elevation of temperature to 100.4 and 101.1 F., respectively. Up to Feb. 11, 1899, the date of the last injection, twenty-one injections had been given. Owing to the injections having been painless, and as there had been no material diminution in the size of the aneurysm, the treatment was stopped. The coagulation time was distinctly reduced after nearly every injection. One hour before the first injection the coagulation time was four minutes, forty seconds. Five hours after injection it was reduced to two minutes, five seconds.

DIFFUSE DILATATION OF AORTIC ARCH; THIRTY-FOUR INJECTIONS; NO IMPROVEMENT.

CASE 4.—C. L., colored, a laborer, aged 48, was admitted to the hospital on Oct. 14, 1898, complaining

of pain in the lower left side and in the back. He had distinct cardiac hypertrophy. There were no endocardial murmurs. The second aortic sound was ringing and accentuated. There was a distinct diastolic shock over the base of the heart. The manubrium was prominent, and with each cardiac systole there was a distinct heaving over the upper part of the thorax, with definite lifting of the manubrium and both clavicles. There was no thrill nor murmur over the area of pulsation. The first gelatin injection was given onNovember 9, and the last, or thirty-fourth, on March 14, 1899. This patient usually suffered intense pain for several hours after the injections. On several occasions there was considerable elevation of temperature after the treatment. After several of the injections made into the abdominal wall sensitive nodules, the size of a hickory nut, developed. These lasted for six to eight days and then disappeared. None of them suppurated. The patient gained seven pounds under the treatment, but the pulsation was not diminished. The coagulation time was reduced after nearly every injection.

ANEURYSM OF THE ABDOMINAL AORTA; EIGHTEEN GELATIN INJECTIONS UP TO DATE; DIMINUTION IN SIZE OF THE ANEURYSM AND CESSATION OF PAIN; PATIENT STILL UNDER TREATMENT.

CASE 5.—W. G., an oysterman, aged 36, was admitted to the hospital on Feb. 9, 1899, complaining of severe pain in the abdomen, which radiated around the whole body. Pain, the first symptom, began nine days before admission. In the left half of the epigastrium there was a distinct visible pulsation. On palpation, a definite tumor, possessing a pulsation, having an expansile character, could be grasped between the hands. There was no thrill, but a harsh systolic murmur was audible over it. The first injection was given on February 13. This and the subsequent one were very painful, and both were followed by rises in temperature to 99.8 and 101.5 F., respectively. After the sixth injection the patient began to suffer much less pain, referable to the aneurysm, and since then has been quite comfortable. Following several of the injections an appreciable diminution in the size of the tumor could be made out several hours later. Up to June 2, eighteen injections had been given. The pain has now disappeared and the aneurysm is distinctly smaller.

Most of the following patients received but one or two injections owing to their being unwilling to remain in the hospital.

ANEURYSM OF TRANSVERSE PORTION OF AORTIC ARCH; SEVERE PAIN IN LEFT INTERSCAPULAR REGION; ONE GELATIN INJECTION; NO IMPROVEMENT.

CASE 7.—L. D., a clerk, aged 51, was admitted to the hospital on Dec. 28, 1898, complaining of pain in the left side and back. There was a distinct visible lifting of the manubrium and of the sternal end of the right clavicle. Tracheal tugging was appreciable. There was faint diastolic shock over the pulsation; no thrill; no audible murmur. The patient was given a gelatin injection on December 18. The pain at the seat of injection was so intense that the treatment was not continued. There was no relief of the original pain complained of.

ANEURYSM OF ASCENDING PORTION OF AORTIC ARCH; SEVEN GELATIN INJECTIONS FOLLOWED BY TEMPORARY IMPROVEMENT AND THEN A RELAPSE OF SYMPTOMS.

CASE 6.—J. T., a sea-captain, aged 51, was admitted to the hospital on April 24, 1899. There was a marked bulging of the manubrium area of the first and second left interspaces and second rib. He had had pain, cough, dyspnea, difficulty in swallowing, and dysphagia. The first gelatin injection was given on April 27. This was followed by a chill and an elevation of the temperature to 103 F. The subjective symptoms were relieved after the first three or four injections, but subsequently the pain returned, and when the patient left the hospital the aneurysm had increased in size. The coagulation time was reduced after the injections.

ANEURYSM OF TRANSVERSE PORTION OF THORACIC AORTA; TWO GELATIN INJECTIONS; RELIEF TO SUBJECTIVE SYMPTOMS.

CASE 8.—J. N., a laborer, aged 51, was admitted to the hospital on May 13, 1898. There was an aneurysm of the transverse portion of the aortic arch causing slight lifting of the manubrium and marked subjective symptoms of dyspnea, cough, pain, huskiness of the voice and dysphagia. Two injections were given, the second followed by a chill and an elevation of the temperature to 103 F. After the injections the subjective symptoms were much relieved. The patient refused to remain in the hospital and was discharged.

ANEURYSM OF TRANSVERSE PORTION OF AORTIC ARCH; ONE INJECTION; SLIGHT IMPROVEMENT OF SUBJECTIVE SYMPTOMS.

CASE 9.—J. C., a sailor, aged 39, was admitted to the hospital on May 18, 1899. There were no physical signs of an aneurysm, excepting slight dulness over the manubrium and appreciable tracheal tugging. As subjective symptoms there were dyspnea, cough, pain and huskiness of the voice. He received one gelatin injection, after which the subjective symptoms were appreciably less. Not being able to remain longer in the hospital he was discharged.

The following conclusions may be drawn from our experience with the gelatin treatment in these nine cases:

1. In not a single instance has the aneurysm been cured, although in one case (No. 5) the abdominal aneurysm has diminished considerably in size and the case is still under treatment.

2. In seven of the nine cases there was an appreciable diminution in the subjective symptoms referable to the pressure of the aneurysm.

3. It seems quite certain that the subcutaneous injection of gelatin solution does materially increase the coagulability of the blood.

4. Contrary to the statement of Lancereaux, we have found that the gelatin injections are frequently very painful to the patient, the pain lasting and being most intense often as late as six hours after the injection.

5. Although Lancereaux states that with strict antiseptic and aseptic precautions there should be no elevation of temperature, we have found the contrary. In several instances the injections were followed, two to four hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103 F. In no case did we have any local suppuration, and in only one case (No. 4) was there even any local reaction.

6. Notwithstanding the fact that we have not yet a case which can be reported as cured, I am convinced that there is some merit in the treatment, and that it deserves a further trial.

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CONTAGION IN LEPROSY AS OBSERVED IN SAN FRANCISCO.*

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There are quite a number of lepers in San Francisco, many more than the eighteen or nineteen who are at present in the pest-house. The important question, however, before the city itself and before the United States is whether San Francisco and the Pacific Coast is merely a temporary abiding place for a few lepers who have come to it by accident, or whether this part of the United States is really becoming a leper focus where the disease may be contracted.

The difference between these two conditions is very great. London, Paris and Berlin, for instance, have always a number of lepers who have come to them either as returned officials or merchants who have acquired their disease in a leper country, such as Tonquin or India, or as patients seeking medical advice, but it is not considered that any of these cities constitute leper centers where leprosy is contracted[1], whereas Iceland, the Hawaiian Islands, the Province of Kwang Tung in China, for example, are undoubted leper centers where the disease is contracted not alone by the natives themselves but by immigrant strangers. To which class does San Francisco belong?

By San Francisco is meant the whole Pacific Coast, as the city is only mentioned because it is the point of view of the writer, and besides, being the largest port on the coast, it is the locality where the largest number of lepers is found. If San Francisco and the Pacific Coast constitute a district where leprosy may be contracted, the condition becomes infinitely graver than if the leprosy was altogether imported. It would appear from some of my observations that leprosy may be contracted on this coast.

In April, 1892, I published the case of an American, who died of tubercular leprosy in the San Francisco pest-house, and who, as nearly as I could find, had acquired his disease from the Chinese either in Nevada or California. This man was born in Massachusetts, and had never been out of the United States, except for a few hours in passing from Buffalo, N. Y., to Detroit, Mich., on a railroad. He had cohabited a great deal with Chinese, and at one time had had charge of a gang of Chinamen on the Central Pacific Railway, in Nevada. He died Feb. 29, 1892. He had noticed the first symptoms of his disease as areas of brown discoloration on the body and limbs about seven years before. His case has, up to the present, remained unique in my experience as being a native-born American whose malady was evidently contracted west of the Rocky Mountains. I have, however, run across several alien-born patients who, on account of their long residence in the United States before showing symptoms of their disease, might therefore be suspected of having acquired their leprosy here. A notable instance of this was a man named Samie Maiken, a Hindu, and a leper of the anesthetic type, who died in the San Francisco pest-house July 9, 1895, at 69 years of age. He had lived in San Francisco for about ten years when he went to Virginia City, Nev., where he first noticed his hands were affected. He, like the before mentioned American, had consorted much with the Chinese, working with them as a laundryman. He had also cohabited much with Chinese prostitutes.

As far as the Chinese themselves are concerned, I have only found five who were long enough in America before the development of symptoms to allow one to infer that possibly they had acquired their disease in this country. One of these was a prostitute, 29 years of age, who came from the village of Sun Ning in the See Yup district of the Province of Kwang Tung. She told a rather romantic story of how, in a raid of the Hak Kah, she had been stolen at 15 years of age, and sold into slavery and brought to San Francisco, where she remained for six months. She was afterward sent to Salt Lake City, Utah, where, after a time, she bought herself free. She arrived in America in 1877, and it was not until 1888 that she first noticed the disease, which appeared as a small tubercle on the nose. She is still alive, a horrible picture of tubercular leprosy, in the San Francisco pest-house.

A Chinaman, named Chung Kan Foke, a native of the Province of Kwang Tung, came to San Francisco in 1876, where he remained for eight years. He then went to Nevada and worked in a silver mine, and it was in that state, in 1892, sixteen years after leaving China, that he first noticed tumefactions in the face, the first symptom of leprosy. When I examined him in February, 1894, he was suffering from tuberculo-anesthetic leprosy.

Another Chinaman, named Ah Lung, from the village of Sang Chow, in the district of Sun Ning, Province of Kwang Tung, by occupation a waiter, came to America in 1882, and it was not until 1895, thirteen years after he arrived, that he first noticed discolored patches in his face, the first symptoms of his disease. When I first saw him, in March, 1897, he was suffering from leprous infiltrations and neural lesions.

Leong O You was a leper of the anesthetic type, 45 years of age, who, when first seen in December, 1897, said that he had first noticed the disease, which at first affected his hand, in March of the same year. He had come to America twenty-eight years before.

Quan Chew, a cook, aged 44 years, and a native of the village of Clack How, in the district of Hoy Ping, Kwang Tung, had come to America twenty-five years before, at 19 years of age. He was a leper of the anesthetic type, with commencing leprous infiltration in the region of the left eyebrow. He had noticed the first symptom of the disease as a pain in the left knee-joint, extending down the front of the leg. This pain had come on after he had been in America nineteen years.

In drawing inferences from the foregoing aliens, consideration must be given to the long latency of leprosy. According to Hallopeau, even thirty-two years may elapse between contracting the disease and its first manifestations[2]. Such very long latencies must surely be exceptional, however.

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[1] Hallopeau: Annales de Dermatologie et de Syph., vol. viii, p. 995.

[2] Hallopeau: Ibid, p. 997.

A. von Bergmann has recently made some statements in regard to the increase of leprosy in Riga, and these are illustrative of what may be happening on the Pacific Coast. Riga, a city of 250,000 inhabitants, is the most active trade center of the Russian Baltic provinces. Von Bergmann says that undoubtedly in the Middle Ages there was leprosy in the city, but in the course of time it died out, and the last leper hospital was closed two hundred years ago, and Riga was for years as free of this scourge as either Berlin or Vienna. The very knowledge of it had vanished, and the writer says that when the older practicing physicians are now shown a case of leprosy they claim never to have seen anything before resembling it. The registers of the hospital show, however, that since the beginning of the sixties, two or three patients a year have been admitted as lepers, but they were mostly from outlying districts. Between 1870 and 1880, however, inhabitants of Riga were registered as lepers, and after this the number increased rapidly, for in the years 1881 to 1886, twenty-seven patients were admitted, and from 1887 to 1890, sixty-four. According to von Bergmann, the facts seem to be that Riga was free of leprosy with the exception of a few patients who came in from outlying towns, and that these patients failed to spread the disease in the city because conditions were not favorable to its propagation. These conditions we do not know; we do not know why certain contagious diseases spread with amazing rapidity in some years or in a series of years, then subside or die out altogether.

This is the very point of the present paper, for the region west of the Rocky Mountains seems not alone to be the recipient of a large number of lepers from outlying leper countries, but the disease appears to be capable of propagating itself in this country. The number of incoming lepers to the Pacific Coast from foreign countries must necessarily grow larger, with our increasing territory and increasing trade, but no statesman would ever think of curtailing trade or failing to annex territory for fear of the spread of such a mildly contagious disease as leprosy. The remedy must be in the segregation or deportation of those lepers we have, and the more stringent examination of immigrants from leper countries.

(*For Discussion see Page 211.*)

SOME QUESTIONS RELATIVE TO THE DIAGNOSIS OF ANESTHETIC LEPROSY.*

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In 1895 I presented to the Ohio State Medical Society[1] two sisters, natives of Ohio, who manifested appearances of anesthetic leprosy.

In reporting the cases I maintained the view that the symptoms they presented accorded with the descriptions of leprosy that I had read, and would not harmonize with the phenomena of any other disease. Although this view of the cases has been called into question, nothing in opposition to it has thus far been advanced which satisfactorily convinces that it is erroneous. It is with the belief that you will aid in finding where in the list of diseases these cases properly belong that I review them here.

The mother states that in the one daughter, Hannah, the first indication of disease was a swelling in the front of each leg, which occurred in childhood, a short time, perhaps a few months, after she began to walk. The swellings suppurated and healed. In two or three years after this time the toes began to ulcerate and come off. Afterward the ends of the fingers ulcerated, exposing the bones, which were painless, and when slow in separating were clipped with shears. From this condition the disease progressed until the cases were reported in 1895. She was then 18 years of age. She had lost toes, some entire and others in part only. She had lost the distal phalanges from most of her fingers, and the left hand was spontaneously amputated. The legs were thickened and anesthetic—thermal anesthesia being especially marked. She had a deep plantar ulcer on which she walked without any pain. The discharge from any ulcerations she had was quite offensive. There was a pemphigus-like blister on the right arm, just above the olecranon, the seat of which was devoid of sensibility. The forearms and hand were also anesthetic. The tongue, the left side of the lower lip, and both wings of the nose had been ulcerated but were healed. This was her condition in 1895. The only time I saw her since then was in July, 1896, by which time she had suf-

fered some further phalangeal losses. She died in April of this year, I think of pneumonia. Her younger sister, Hattie, has shown the disease for about seven years. Some of her toes are entirely gone and the ends of some of her fingers are lost. There is an ulcer in the plantar surface, at the middle of the heel. It is indolent and rather dry, so one can see into it. It would admit a lead pencil for nearly an inch. The mother states that it came a number of weeks ago, from stepping on a nail. The foot is also swollen and inflamed, from the formation of an abscess which has opened in the top of the foot, an inch from the base of the second toes. A horse stepping on the foot is given as the cause of this. Notwithstanding the painful-looking condition of the foot, she walks with but little inconvenience. There is thermal anesthesia over the outer malleoli and for a little way above. In the hands she can not differentiate between heat and cold. There is some thickening of the left ulnar nerve.

There were eight children in the family and the only ones thus affected are Hannah, the fourth child, and Hattie, the youngest. The father was a soldier in Georgia, during the Civil War. As opposed to the diagnosis of leprosy in these cases it has been suggested

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1 See Journal, xxv, 762, 1895.

that fifteen months is an exceptionally early age for its development. This is no doubt true, although the incubation period for leprosy is given wide range and is stated to vary from only a few months to many years. While the mother says that abscesses developed in the child's legs a few months after she began to walk, she also says the toes did not begin to ulcerate until two or three years after that time. It does not seem improbable that the abscesses may have had nothing to do with her present disease and therefore did not mark its beginning. It seems true also that the mother's recollection of dates and the sequence of events is not unquestionably clear, and it is not improbable that she may be mistaken. The fact that on examination no lepra bacilla were found in the amputated hand can not militate as has been said, against the diagnosis of anesthetic leprosy, because in this form of the disease their presence can but exceptionally be demonstrated. Dr. Albert S. Ashmead has published (JOURNAL, Nov. 16, 1896) a letter writtten to me concerning these cases, in which he said: "I do not consider them lepers. Colles' law, I think, proves them to be syphilitic. Certainly if they were lepers, the mother would have been infected too."

These statements, though made by so distinguished an authority, fail to convince me, for I can not understand how any use can be made of Colles' law in determining the character of these cases. If I correctly interpret what I read concerning leprosy, it is not an inherited disease, but is contagious or communicable—always the result of contaminating contact. If this be true, as the facts adduced seem to prove, Colles' law can not be invoked to our help. It can not be maintained that if a mother's children are sick and she remains apparently well, they therefore must be sick with syphilis. The statement that "if they were lepers the mother would have been infected too" is surely in contradiction to the prevalent opinion based on the study of leprosy in this country. Even in countries where the disease flourishes and the conditions for its spread seem most favorable, this statement would appear to be wholly unwarranted by the facts. Syphilis with all its protean manifestations has, so far as I am able to learn, failed to produce cases to which these conform. Syringomyelia has not, heretofore at least, furnished such examples, especially as regards the order of development.

It must be admitted that the circumstances under which the cases developed are unusual, and this may be the greatest cause for doubting that they are of leprous character. If these girls had lived in a leper country or had been associated with known lepers, there would probably be little doubt that they nicely illustrated the disease.

The father had a chronic affection of the nose, and I can base the origin of the cases on no better theory than that he brought the disease from the South. But as the bacillus of leprosy is long-lived it may possibly be transported great distances to some one susceptible to its influence.

DISCUSSION ON PAPERS OF DRS. MONTGOMERY AND M'DOUGAL.

DR. BISHOP, New York City.—The general practitioner is very much interested in leprosy, always, and when he gets hold of a case he generally shows it around. Last winter I borrowed some cases from Dr. Fox and showed them at the session of the general academy, and they excited much interest. General practitioners, myself included, do not know these conditions until they are brought before them. I think many of these cases abound and many people might be saved from infection if these patients were more generally recognized.

DR. A. W. BRAYTON, Indianapolis, Ind.—Concerning the point made by the last speaker, I never saw but one case which it occurred to me might be construed by the general physician as leprosy, but really was not. It was a case of lupus mutilans, infantile lupus, in which the fingers were almost destroyed. I was showing the case to Dr. Corlett of Cleveland, Ohio, and he remarked that of all the cases of lupus resembling leprosy this was one which he could most willingly forgive the ordinary practicing physician for pronouncing leprosy. There were large shiny patches where the lupus had spread over the skin, which were not found in anesthetic leprosy. I think the destruction of the hair follicles never occurs in leprosy.

DR. A. E. CARRIER, Detroit, Mich.—What is the nationality of the parents?

DR. J. G. MCDOUGAL.—The grandparents and parents were natives of Ohio. They could not tell me further than that. Their people, however, are generally healthy and reach old age.

DR. A. E. CARRIER.—Was there anything peculiar about the mouths of the children?

DR. J. G. MCDOUGAL—Not anything characteristic of syphilis; although there had been some ulceration of the lip and tongue and some loss of lower jaw in the older girl, which had healed at the time I first saw her. There were six children besides these two, and none of them showed any evidence of syphilis. The husband never underwent any antisyphilitic treatment: and there had been no miscarriages.

DR. A. E. CARRIER—Are these two children that followed?

DR. J. G. MCDOUGAL—No; the older one is the fourth in a family of eight, and the other is the youngest. Between them were three healthy children.

DR. R. R. CAMPBELL, Chicago.—What did your treatment consist of?

DR. J. G. MCDOUGAL—I never gave them any treatment. They were never patients of mine.

DR. BISHOP—I can say that I saw these patients a few years ago, and I would not like to rule out syringomyelia. I had a case where the fingers and toes were more or less lost. The patient was a scrub-woman who had burned herself at various times and for that reason had lost the fingers. She had the anesthesia in the heat sense. These may be cases of myelia.

DR. J. G. MCDOUGAL—I would like to inquire of the Doctor whether it is true, as stated by writers on the subject, that syringomyelia affects the upper extremities only; or at least that it always *begins* in the upper extremities.

DR. BISHOP—I think that it is such a rare disease there could not be any rules laid down.

DR. L. DUNCAN BULKLEY, New York City—I will first speak about the sporadic cases of leprosy which we undoubtedly have in this country. Thirty-odd years ago a patient came from the neighborhood of Poughkeepsie, N.Y., before the Dermatological Society, when it was first founded. Dr. Boeck of Norway, who was there, confirmed the diagnosis of leprosy. The patient had never been from the vicinity of New York; had never been in a leprous country, and lived at home with his family. He was under my father's care, and finally died a leper, without communicating it to his family or to others. Shortly afterward I had another patient who had never been away from the neighboring territory. He came, I think from New Brunswick, N. J. The case came before one of the medical societies and was recognized as leprosy. It was largely anesthetic, and not of the mutilating form. There was some clubbing of the fingers and large tubercular lesions, of the anesthetic form, over the entire body. He lived with his family, and there were certainly no cases ever communicated from that one.

While I was house physician in the New York Hospital, thirty years ago, there was a leper there who had entirely lost his fingers, to the metacarpal bones, and his face was frightfully disfigured. He would talk by pushing up his upper lip. While there he was transferred to the surgical side and had one foot amputated without an anesthetic of any kind. He was very much interested in seeing that a perfect job was made of it, but they made no better job than nature had made with the fingers. There was no pain whatever. There were no precautions taken against infection, and this was long before the days of antiseptic surgery. That was thirty years ago and there has been no case of leprosy developed in New York City since that time, that I know of, and I have kept watch—there

have certainly been no cases developed from these. The patient certainly did not give it to others in the hospital, and he was there for six months or a year. That tells the story with regard to the danger of infection from leprosy in this country. One evening, some years ago, there were thirteen cases of leprosy exhibited at a meeting of one of the New York societies. The New York Skin and Cancer Hospital is hardly ever without one or two lepers in its wards. We now have two, one with anesthetic patches on the back and sides, gotten from the tropics; and the other an old man with tubercular leprosy. He has improved vastly, having been with us more than a year.

A MEMBER—What is the treatment?

DR. BULKLEY—Chaulmugra oil and quinin.

MEMBER—Any local antisepsis?

DR. BULKLEY—No; no local antisepsis, and no precautions taken. Some years ago, at Fordham, we had a leper, a young man of considerable wealth and position. He had a private room, became totally blind and lost one or two fingers. It was the mutilating, anesthetic and tubercular form. He was with us six months or a year. Finally his nurse went away with him, suddenly, and lived with him, and he lived a year or so. There have been no cases from that one. I do not suppose there has been any time during a period of twenty or thirty years, that I have not seen some cases of leprosy. At San Francisco I saw a dozen cases, in many different forms. In this section of the country particularly, there is absolutely no transmission of the disease from one person to another.

I do not know how many are acquainted with the facts of the existence of Norwegian leprosy in northern Minnesota. For many years many leprous Norwegians have gone there. About ten years ago somebody came over from Norway and traced up the names and histories of some dozens of them—he went and saw them at the different towns. His statement then was that there had been no new cases developed there; also that the children did not have leprosy—the lepers were dying out and they were preventing mere from coming, and there were fewer there than were to be expected from the importation. It has not spread in Minnesota.

This condition does not seem to be true about the South, if we can believe Dr. Dyer. Cases now and again develop sporadically in Louisiana. On the other hand Dr. Elliott, of New York, my assistant at the New York Skin Hospital, formerly at the New Orleans Hospital, claims that they always had cases of leprosy in the General Hospital in New Orleans twenty years ago, and they never regarded them as contagious; they had no fear of them. I think that in the warmer climates there is some danger of leprosy extending. The disposition of the problem should not be in their segregation; but we should not let them land here. They are no more use than blind, lame, halt, imbecile, or crazy persons.

With regard to these very interesting cases, I can not make up my mind that they are leprosy. As I said, I have seen a good many cases of mutilating anesthetic leprosy. Nor from my experience could I say it is syringomyelia. I do not know that I have ever seen more than one case of the latter, and I do not think we have enough literature on the subject to say that it is confined to the upper extremities. As I understand, these patients had no eruption except on the front of the leg and on the side of the face, which would afterward slough off. I should exclude that as a leper lesion. I do not know that under any conditions, when once developed, the lesions leave entirely. They get smaller and larger but they are there to stay.

I do not think one could, by any imagination, connect syphilis in any of its forms with these cases. I would like to inquire how much difference there is in the ages of the two patients?

DR. MCDOUGAL—About ten years; one is the fourth, the other the youngest child. There are three between.

DR. BULKLEY—That would exclude the probability of hereditary syphilis—to have three well children between them, and develop in this youngest child.

There is an interesting point which perhaps counts somewhat against my exclusion of leprosy in these cases, and when this diagnosis was suggested I could not help thinking of some recent developments in regard to the modes of communication of leprosy. The idea that it is taken in through the nasal passages, as consumption is, is gaining. It is believed that 90 per cent. of tubercle bacilli which get into the lungs are inhaled. In the same way it is claimed that the effluvium carrying the leprosy bacilli is carried in the winds and finds entrance through the nasal passages.

In leprosy countries all the doctors say that it begins with a bad cold. The patient will say, "I had a bad cold and ever since I have had this disease." The bacillus of leprosy is well known: the bacillus lepræ very much resembles the tuberculosis bacillus, and it is a question whether most men could tell the difference. It takes the same stain as the tuberculosis bacillus. I have examined specimens from every portion of the body.

So, I say that this is an argument against my own diagnosis of the cases; there is a possibility of the father having had mild leprosy, and these two children may have gotten the infection by inhalation. That is within the bounds of possibility. The cases are certainly extremely interesting, and I am glad to have seen the picture.

DR. A. E. CARRIER, Detroit, Mich.—As far as the difference in the ages of the children is concerned, and the fact of healthy children being born between them militating against the cases being syphilis, I think there are cases where syphilitics have healthy children, exceptional cases; but I am not making any claim for these being cases of syphilis. As an illustration, I have a patient who is suffering with syphilis. She has been treated for lupus for three years. In my examination I found that she was nursing a child ten months old, and so far it has not given any evidence of the disease. Under syphilitic treatment, her face, which was completely covered with the lesion, has entirely healed. While she gives no history of a primary lesion, I have no doubt, from the result of the treatment, that she was suffering from syphilis. It is not too late for the child to show signs of the disease, and while absence of it in the child might be one reason for the exclusion of syphilis in the mother, it is not a positive reason. I am sure I can not tell what the disease is.

DR. A. W. BRAYTON, Indianapolis, Ind.—I will ask the Doctor whether there is not a strong possibility of this being Raynaud's disease. This should be kept in mind.

DR. MCDOUGAL—My understanding of Raynaud's disease is that the anesthesia is confined to spots which become afterward necrosed—to spots about to become gangrenous.

DR. R. R. CAMPBELL—I will ask you for an explanation of the different degrees of coloration in the legs?

DR. MCDOUGAL—This eruption did not appear until 1895. It was of a dark brownish color, eruptive spots not raised, thickly set, giving the skin a dappled appearance, as shown in the photographs. These cases have been more fully reported in THE JOURNAL of Nov. 2, 1895. I am not so thoroughly convinced that they are cases of leprosy, but I think that leprosy has not been satisfactorily excluded. The only objections heretofore made to the diagnosis of leprosy are the ones to which I referred in my paper. The theory of syphilis has been the most strongly urged as an explanation of the condition, but it seems improbable. The manifestations of syphilis have been observed for centuries, and yet these cases would be unique. Besides, in a family of eight children born in close succession, the fourth and the last are the only ones manifesting any constitutional taint. Dr. William Thomas Corlett, of Cleveland, Ohio, recently saw with me the girl yet living, and I am sorry he is not here to express his opinion concerning this case. I hope he will pardon me for stating that he was impressed with the notion that it was leprosy; although he did not then feel justified in making an unqualified diagnosis. He may yet favor us with the advantage of his maturer judgment. He made some negatives of the hands and feet. The feet have become quite badly mutilated by the loss of toes. I hope the character of these cases may yet be positively ascertained, and, if it is, I hope it may be found to be some other disease than leprosy, for it would seem a menacing disclosure to learn that the bacillus of leprosy can be carried from a distant place to a fertile soil in the interior of the United States.

Marange calls attention to the fact (*Sem. Méd.*, December 6) that granular pharyngitis is only a manifestation of arthritism and treatment should be directed to the latter to attain a permanent cure.

PROBABLE BRAIN TUMOR WITH RECOVERY.*

BY W. A. JONES, M.D.

MINNEAPOLIS, MINN.

The case which I have the honor to present belongs to that interesting category where complete recovery of the patient leaves the question of diagnosis forever in doubt. The patient, P. Q., a male of 16 years, was referred to me by my friend, Dr. J. H. Dunn, of Minneapolis, Sept. 18, 1897. He had been taken ill four days before, with what appeared to be an ordinary attack of indigestion accompanied by severe headache, but his symptoms had grown steadily worse and at that time pointed to the presence of a cerebral lesion.

Inquiry into the family history shows it markedly neurotic. The patient's father, always a very active business man, a continuous worker, very excitable, is occasionally subject to short, but violent outbursts of anger; otherwise he is well and has never suffered from any prolonged constitutional disease. His father died in early life, from the result of an accident. His grandmother died before the age of 30 of consumption, and an uncle also died of the same disease. Two of his aunts are living and well. The patient's mother is unstable, irritable and excitable and suffers from a valvular heart lesion as well as from chronic eczema, yet claims that she enjoys good health. Her father died hemiplegic, at 65, her mother at 76, of acute bronchitis. A brother died from some form of paralysis, and a sister of eclampsia at childbirth. The patient is the second of four children, all of whom, except the older sister, have large heads, asymmetric in shape, but evidently not rachitic. They are also anemic and of the spindle type. The entire family are apparently slightly defective and probably suffer from the so-called scrofulous diathesis or, perhaps, better stated, all are highly neurotic.

The patient has always been wilful, quick-tempered, and irregular in his habits, working at times with physical vigor and enthusiasm, in his studies occasionally inclined to overdo, and at other times being indifferent and unsettled. During the summer of 1897, he spent a few weeks in the Yellowstone Park, with a camping expedition, and was subjected to hardship and exposure. He returned very much reduced in weight, showed marked signs of impoverishment of nutrition and was extremely irritable. During the same summer he attempted to make up preparatory work for the university, and applied himself very closely to his studies, while at the same time he rode his bicycle to excess. He complained occasionally of dull headaches, which were supposed to be due to errors of diet and exercise, as they disappeared in a few days after rest and care.

On Sept. 14, 1897, without any special cause, except a difficulty of digestion, he complained of intense headache, was nauseated and vomited. During the day he had several attacks, but on the following day was very much better. The third day, however, his headaches returned with increasing severity, accompanied by nausea and frequent projectile vomiting. He then complained of a pain over the frontal region, more particularly over the right eye. I saw him for the first time on September 18. He complained of constant boring, intense pain over the right orbit, was intolerant of light, intensely irritable and still nauseated. His pulse was 48 and his temperature subnormal—97. He had pain on percussion over the right orbital region; he had been put through the usual course of cathartics and intestinal antiseptics without benefit, but was relieved of his pain by a small hypodermic of morphin.

The following day found him no better. He cried out in paroxysms of pain, demanding firm pressure over the right eye, complained of vertigo on movement of the head, and also exhibited violent temper and great profanity. The pulse continued slow and his temperature remained subnormal. During the following week there were no marked changes until the tenth day of his illness; he then showed a paresis of the internal rectus of the right eye, while the pupil was slightly enlarged and did not respond promptly to light. The left pupil remained unaffected. He was at times ungovernable, cursing and swearing and showing frequent outbursts of temper, particularly toward the nurse and his father. He was rather slow to respond to questions, the pulse became irregular but continued slow, ranging from 42 to 52, and the temperature continued subnormal. He had occasional attacks of nausea and vomiting, projectile in type, and containing partly digested food. The pain was relieved by occasional small doses of morphia, not more than a quarter of a grain, however. He continued in this condition for about ten days longer, when there appeared a paralysis of the external rectus of the left eye and a mild hemiparesis of the left side of the body, including face, leg and arm, with increased knee-jerks and ankle-clonus on the same side. There was also a partial anesthesia of the right face above and a little below the orbit, but not extending to the lower half. The sensation on the left side was normal. A consultation of physicians included Drs. C. J. Spratt, H. L. Staples, and Arthur Sweeney. At this time an ophthalmoscopic examination was made, and showed a well-marked neuroretinitis in both eyes. The same train of symptoms continued until the middle of October, with occasional remissions, but still no change in the condition of the pulse or temperature, except that when violently excited the pulse would go up to from 60 to 90 for a short time and then drop back to the old standard of 42 to 52.

During the first month the temperature did not reach above 99. The greater part of the time it was 97. After the first month, when convalescence was established, the temperature occasionally rose to 100.5. Gradually he began to improve. The pains lessened in severity, the vomiting ceased, he became tolerant to light, and the pupils once more responded. The ocular palsy and the hemiparesis disappeared. The neuroretinitis subsided by the middle of November. His emaciated condition began to improve and by the middle of December, or three months after he was first seen, he was practically well.

The diagnosis was a matter of extreme difficulty, but from the general symptoms of headache, vertigo, vomiting, the ocular palsy, the left-sided paralysis, the ankle-clonus and increased knee-jerk, the subnormal temperature and pulse, together with his extreme irritability, a tumor seemed the most probable explanation of the trouble. Although many of the symptoms appear to be in line with brain syphilis, we could elicit no such history. The matter was gone over carefully with the father and mother, the boy was closely questioned at various times during and after his illness, yet all of the physicians were satisfied that specific infection could be excluded. Hereditary syphilis was also excluded, since there was no evidence of previous

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mental weakness or convulsions, or previous disease of either eye, ear or teeth, and since there was present paralysis of the cranial nerves and the opposite side of the body. Meningeal inflammation was also eliminated by the absence of any infectious process and of the characteristic symptoms. Brain abscess was considered, but was excluded on the ground that the boy had suffered neither from suppurative disease, infectious fever nor injury. Although the symptoms were those frequently found in brain abscess, namely, irregularity in the course of the disease and the distribution of the symptoms, it seemed reasonably safe to exclude it from the diagnosis. For many of the same reasons, acute exudative encephalitis appeared improbable. There was no infection, there was total absence of coma or convulsions, and there was present a low temperature and a slow pulse-rate. Embolism was excluded on general principles, as there was no sufficient cause for its occurrence. The urine was frequently examined, but neither casts nor albumin were present, and although there was a diminution of chlorids, his condition was not uremic. The possibility of a neuritis of the cranial nerves was also discussed, but the symptoms seemed too wide-spread and numerous to warrant such a diagnosis.

With the probability of tumor in mind, and the absence of any specific history, the conclusion finally reached that the neoplasm was of tubercular origin was based on the age of the patient, his neurotic temperament, the size and shape of his head, his general physical appearance, the rapidity with which the brain pressure symptoms developed, their progress and his very satisfactory recovery. The location of the tumor must be a matter of some dispute, but with the symptoms enumerated, the conclusion that it was in the pre-frontal region on the left side, near the orbital surface, seems most reasonable.

The treatment was interesting, for it was mainly experimental. The usual attention was given to the digestive apparatus, the bowels were kept freely open with calomel and saline, and the pain was eased by occasional hypodermics of morphia, since no coal-tar products proved to be of service. On account of the slow pulse and its frequent irregularity, he was given hypodermics of strychnia, 1-30 grain t. i. d. An attempt was made to put him on iodids and bromids, but he was unable to retain them as they produced so much stomach disturbance. It seemed advisable, however, to give him iodids, and this was done by inuncton. For three consecutive weeks, beginning on September 25, he was rubbed every twenty-four hours with an ointment containing 4 gr. of the red iodid of mercury and 21 drams of iodid of potash, dissolved in hot water and lanolin. This means 1230 gr. of iodid every twenty-four hours for three consecutive weeks. After this the inunction was gradually reduced in quantity until the end of the second month. It was finally discontinued and he was given Blanchard's syrup of iodid of iron, which, together with the care and nourishment, constituted the entire treatment. He was kept in bed continuously for two months, then allowed to get up and about.

I have seen him at intervals since his recovery and he is now in the best of health. His convalescence was slow after the acute symptoms had subsided, but during the last year he has grown, and has developed in all directions and is apparently sound and well.

DISCUSSION.

DR. F. SAVARY PEARCE, Philadelphia—The author's case admirably illustrates the advantage of using the iodids in full dosage, in this way causing absorption, which at times produces remarkable results by temporarily allaying symptoms which are due secondarily to the inflammatory condition and resultant exudate.

DR. F. W. LANGDON, Cincinnati, Ohio—While the tumor may remain quiescent, we know that the nervous tissue will accommodate itself to a wonderful amount of pressure, and occasionally cases come to autopsy in which the history has dated back seven or eight years. I myself reported a case of cerebellar tumor in which there was a clear history for seven years, of vomiting, deafness, vertigo, with occasional periods of apparent comfort, and yet the autopsy showed the growth as large as an English walnut. The tumor, however, was not a tubercular one, but simply a fibroma.

DR. W. J. HERDMAN, Ann Arbor, Mich.—There is a possibility of a tubercular tumor remaining latent for quite a time, and subsequently giving rise to pronounced symptoms. I have one brain in which I found seven growths at the autopsy. Fortunately the first one, which was cerebellar, and about an inch in diameter, had become encapsulated. Those that caused the death were in the temporal and in the frontal lobes. The time during which these tubercular growths were developing in the brain covered as long a period as five years. There is a possibility of being months or years in which you would have no symptoms, and yet considerable progress be made in the development of such growths in the brain.

DR. CHARLES H. HUGHES, St. Louis, Mo.—There can be no doubt about the accuracy of the diagnosis so far as the existence of some form of tumor is concerned. It is not an uncommon thing for these exudates of venereal disease to be removed under treatment. It is not so certain about the removal of gliomata. Some years ago I had an experience with cerebral tumor that influenced me in after life in the treatment of these conditions. That was the case which McLane Hamilton incorporated in his "Diseases of the Nervous System." It is not the tumor itself in cases of cerebral tumor involvement that gives rise to the symptoms, but the secondary conditions developed in the brain by the presence of the tumor. The alterations in circulation that give us the appearance in the fundus of the eye may be produced by other forms of cerebral irritation, exciting the circulation and in this case of cerebellar tumor the patient surprised me by getting from his bed and walking about the streets unaccompanied and without the characteristic gait, without the vertigo and without any of the cerebellar symptoms. Under general treatment, rest of the man, and large doses of bromid of sodium, the conditions which seemed to have developed the symptomatology of the patient disappeared, and so confident was the family physician and the wife of the patient that the man was cured that they had made arrangements to discontinue the treatment. He had the intense occipital headache and the vertigo and got rid of all those symptoms.

DR. W. A. JONES—I presume that if the diagnosis is correct I will probably have more trouble with the case. The condition of the fundi entirely cleared up after the patient was under treatment three months.

SYPHILIS FROM DENTAL INSTRUMENTS.

BY WILLIAM L. BAUM, M.D.

Professor of Skin and Venereal Diseases, Post-Graduate Medical School Chicago; Attending Dermatologist at the German Hospital, Post-Graduate Hospital; and Fellow of the Chicago Academy of Medicine.

CHICAGO.

My interest was particularly attracted by experience with the following cases:

CASE 1.—On Oct. 9, 1896, there appeared at my office a young man, 28 years of age, who came to consult me about a peculiar skin eruption which had caused him much annoyance, not because of any irritation at the site of the lesions, but rather because of the consequent disfiguration.

He gave the following history: He was an Ameri-

*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

can; had been practicing dentistry for four years; was married and the father of two children; had never suffered from any serious disease, and had never had a skin eruption before; there was no history of gonorrhea or chancre. The present eruption occurred about two weeks previously in the form of small red blotches, erythematous in appearance. It was accompanied with violent headache and a feeling of general debility. Since then small papules appeared on the chest, back, face, and extremities, and also on the scalp. There was general indolent adenitis present. The patient could not remember any particular lesion preceding these, except a very stubborn small sore upon the index finger of the right hand, near the matrix of the nail. This he explained by saying that he had accidentally scratched himself in this place with a dental instrument while filling some teeth for one of his patients. The epitrochlear and axillary glands upon the right side were much enlarged and somewhat tender to the touch. There was no doubt that this dentist had syphilis, and that his infection was either from a scratch with one of his instruments previously used upon a patient with syphilis or infection of the wound from the patient upon whose teeth he was working at the time. The latter theory he scouted, saying that she was a very estimable woman, a social leader, and one in whom it would be almost a crime to suspect the presence of disease. This last remark only too frequently presents the view of many members of our profession, as well as dentists, forgetting as they do that syphilis is a wide-spread disease, and that it is not necessarily a reproach to its unfortunate victim, but often, perhaps more often than believed, innocently acquired.

CASE 2.—A man, 29 years of age, a bookkeeper by occupation, appeared at my office in December, 1894, with an erythematous eruption of the skin, and complaining of some soreness of the tongue and throat. He gave the following history: During the last week of September and the first week of October, he had occasion to have considerable dental work done, in the course of which his tongue was slightly injured by a dental instrument. The wound apparently healed in a few days, but ten days later a small nodule was perceptible on the site of the wound. This became somewhat painful and increased in size. At the same time the glands of the neck became enlarged and painful; the nodule broke down in the center. This excavated erosion was surrounded by a hard, infiltrated zone. There was general enlargement of the lymph-glands. A diagnosis of syphilis was made, and the patient made a rather uneventful recovery.

CASE 3.—A man, aged 22 years, came to the clinic of the Post-Graduate School in January, 1895, with a large papillary syphilide. The glands in the neck were very much enlarged, and there was a sore upon the lower lip, at the internal border of the mucous membrane at the right side. He had not been exposed to any infection that he knew of. He had been under the care of the dentist for some weeks, and remembered sustaining a slight injury during the course of the dental work.

CASE 4.—A woman, aged 35 years, married, the mother of five children, in October, 1895, consulted me on account of falling out of the hair and a slight eruption, typical symptoms of syphilis being present. She gave a history of a sore appearing upon the tongue, and of having received an injury during the time she was under the care of her dentist. Her husband was healthy.

CASE 5.—A girl, aged 15 years, had frequent attacks of tonsillitis with subsequent hypertrophy of the tonsils. They were removed by a laryngologist. The base of the right tonsil remained sore for some time. It became quite painful and hard. Two weeks later all the glands, submaxillary, sublingual, and cervical, became much enlarged and slightly tender. Eight weeks after the removal of the tonsils, the patient noticed the first eruption. Consultation with the laryngologist revealed the fact that he had not been in the habit of boiling his instruments, and had, according to his case-book, removed a tonsil a few days before the above-mentioned operation with the same tonsillotome.

CASE 6.—A man, aged 47 years, an express-driver, in September, 1897, first noticed a small, hard lump on the edge of the upper lip on the left side, near the margin of the mucous membrane, which became hard and was accompanied by considerable swelling. The patient remembered that a few weeks before he had received an injury at this point, while under the care of a dentist. The glands generally were enlarged, maculo syphili present.

It must be remembered that in all these cases there is a possibility that the infection might have occurred from the transmission of syphilitic virus by means of drinking utensils, pipes, etc., soon after the injuries were received, although this is scarcely probable.

Fournier, in his work[1] collected 1124 cases of extragenital chancre; of these, 847 appeared in the region of the head, most of them being localized about the lips, tongue, tonsils, etc. The syphilitic manifestations in the mouth may be divided into three kinds: 1, the initial effect or chancre; 2, the secondary lesions, such as erythema, mucous patches, etc.; 3, the tertiary symptoms, such as gumma.

Chancre of the Lips.—In this region it may begin as a fissure, or as a small, hard papule. In a few days this lesion becomes markedly indurated, and in about two weeks the sublingual and maxillary glands become enlarged, those nearest the chancre becoming most enlarged.

Chancre of the Tongue.—This is not so frequent; it usually is found on the dorsal surface, the sides, or the tip. It generally consists of a hard, round, or oval lesion, the surface later undergoing erosion, being surrounded by a hard or indurated zone. The glandular enlargement occurs the same as in the labial chancre.

Chancre of the Tonsils and Fauces.—This is not so common, and is usually recognized late. It is characterized by considerable swelling. The surface is covered by a tenacious yellowish-white secretion, is extremely painful, and its period of exulceration is marked by a decided destructive tendency since it is usually accompanied by streptococcus and staphylococcus infection.

The secondary lesions have the following course:

Erythematous Syphilide.—This occurs on the mucous membrane, often coincident with the eruptive fever. The mucous membrane covering the soft palate, uvulæ, and tonsils—this terminates at the line separating the soft from the hard palate—is livid in color.

Papular Syphilide.—This syphilide of the mucous membrane usually accompanies the secondary papular manifestations of the skin, although it may be present at any later time. It appears as an erosion, sometimes as an ulceration, at others as a scaly patch. Those papules that are situated on the anterior surface of the velum and anterior arch of the palate are the last developed. They undergo degeneration very quickly, causing circular turgid spots, or, where the degeneration penetrates deeper, a diphtheritic pseudomembrane will be

[1] Extra-genital chancre, Paris, 1897.

found on the mucous membrane. (Zeiss.) Sometimes conical vegetations form upon the papules that are situated on the uvulæ or tonsils. The mucous-membrane papules are most frequently found on the tongue. Macular syphilides also frequently occur on the tongue.

Gumma.—This may attack the tonsils, soft palate, and uvulæ, causing much swelling, but little pain. Gumma of the soft palate may escape recognition and end in perforation. Syphilitic gumma of the tongue, which develops without causing pain, may be either in the mucous membrane or in the muscular structures. If it remains untreated, it will undergo disintegration, leaving an excavated ulcer behind.

The syphilitic contagion adheres to all textural elements, and textural detritus produced by suppuration or bionecrosis in consequence of syphilis. It is most abundant in disorganized syphilitic papules and the sloughing initial chancre. It may easily be carried by instruments, drinking utensils, knives, forks, cigar-holders, pipes, and by the hands, but there must always be some abrasion present or it can not be inoculated.

Every patient in whom the diagnosis of syphilis is made should, before the inauguration of antisyphilitic treatment by mercurials, be sent to his dentist, in order that any caries of the teeth be remedied, and gingivitis treated. These precautions are necessary, and when properly carried out the dangers of hydrargyric stomatitis thus are greatly lessened.

It is necessary that the dentist and oral surgeon, to avoid being the carrier of the contagion, and for his own protection, should possess a knowledge of the characteristic appearance of the different syphilitic lesions met with on the mucous surfaces of the mouth and fauces, and personally supervise the disinfection of his instruments by repeated boiling and immersion in formalin or creolin solutions.

It might even be well to keep some instruments for use upon syphilitic cases only.

This paper has not been written in a spirit of criticism of the dental profession. The small number of cases reported in a practice covering several thousand syphilitics, is rather a tribute to the care and asepsis ordinarily parcticed by the great mass of the profession.

AN INTESTINAL SUTURE.*

BY RAYMOND CUSTER TURCK, M.D.

Professor of Anatomy and Operative Surgery in the Chicago Post-Graduate Medical School; Director of the Post-Graduate Anatomical and Surgical Laboratory: Member of Chicago Academy of Medicine, etc.

CHICAGO.

The "ideal" intestinal suture is one which will combine simplicity, strength, rapidity of insertion, and absolute insurance from leakage. Without going exhaustively into the relative merits or demerits of the various sutures now in vogue, I would like, however, to mention a few points regarding the one probably most widely in use at present, i. e., the Halsted suture.

In Diagram 1 are shown Halsted sutures inserted, but not tied. When the knot is tied the serous surfaces of the bowel are approximated, and cut edges inverted, but, not only do the sutures draw longitudinally on being tied, and thus draw the wound together, but at the same time they draw laterally, as indicated by the arrow-heads. This latitudinal tension tends to draw the sides of the sutures together, but at the same time draws the sutures away, each from the other, leaving weak points as indicated in Diagram 2. This necessitates the expenditure of considerable time in order to place the sutures very close together and thus avoid a leakage which would otherwise occur at these weak points.

In the new method, the Halsted suture has been utilized in modified form, as will be seen from Diagram 2.

The new suture might properly be called a "lock-stitch," because each loop is locked through the adjacent ones. The first suture is an ordinary Halsted, but a trifle wider than usually used. The succeeding sutures may be nearly twice as wide as the Halsted. Before the first

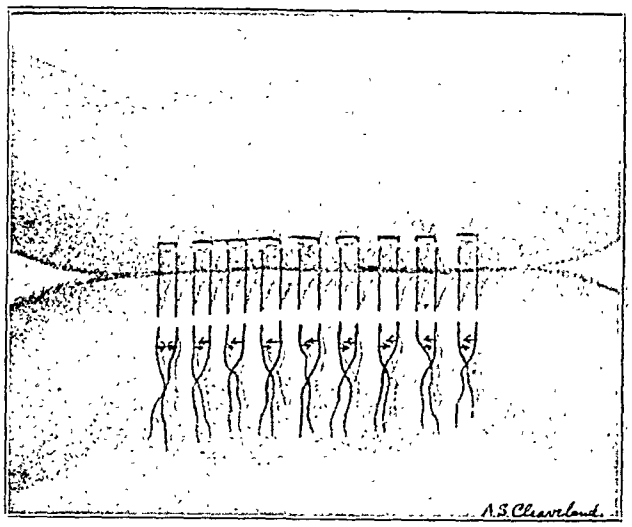

FIGURE 1.

is tied, the second is inserted, starting, however, on the opposite side of the wound, so that the knots will alternate on the loops of gut. The second suture is not placed beyond the first, as in the Lembert or Halsted method, but the first half of the second loop passes immediately inside the second half of the first loop, thus locking the two. As soon as the second is inserted, the first is tied, the third inserted, and the second tied, and so on. After the first suture is placed, each suture is

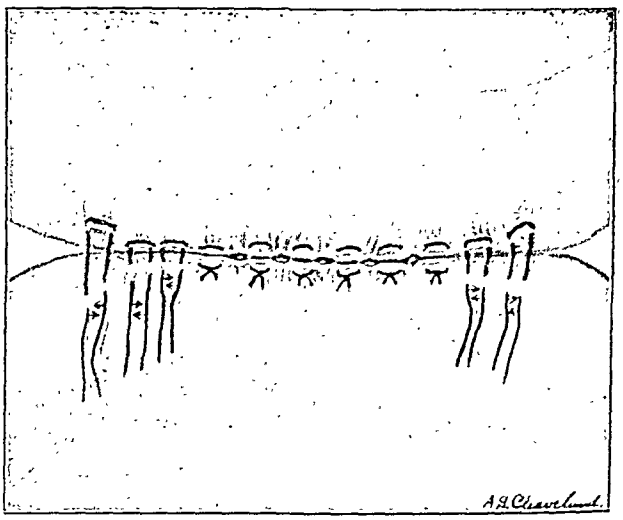

FIGURE 2.

passed *under the loop,* and *over the loose end* of the suture immediately preceding it, so that when all sutures are tied a complete chain is formed. In putting in each suture care should be taken not to pass the needle through the fiber of the preceding suture, otherwise it may be found impossible to draw the sutures tight.

With this, stitch-leakage is absolutely impossible. The loops A, B, C, D, E (Diagram 4), for instance, when tied are drawn in the direction of the indicated

*Read before the Chicago Academy of Medicine, Jan. 12, 1900.

arrow-heads. It is certain that the portions of bowel between the two sides of each loop are perfectly approximated, and also as each loop is locked with those on each side of it, the spaces between C and B, and between

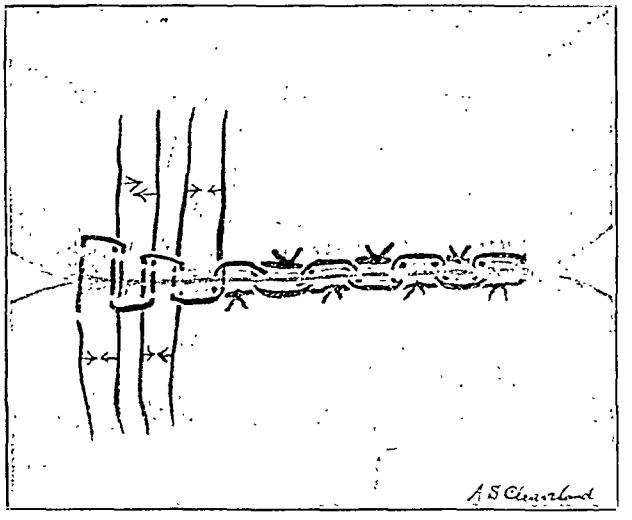

FIGURE 3.

E and D, are also completely closed, the lateral tension of the adjacent sides of the successive sutures drawing the wound together at these points, instead of apart.

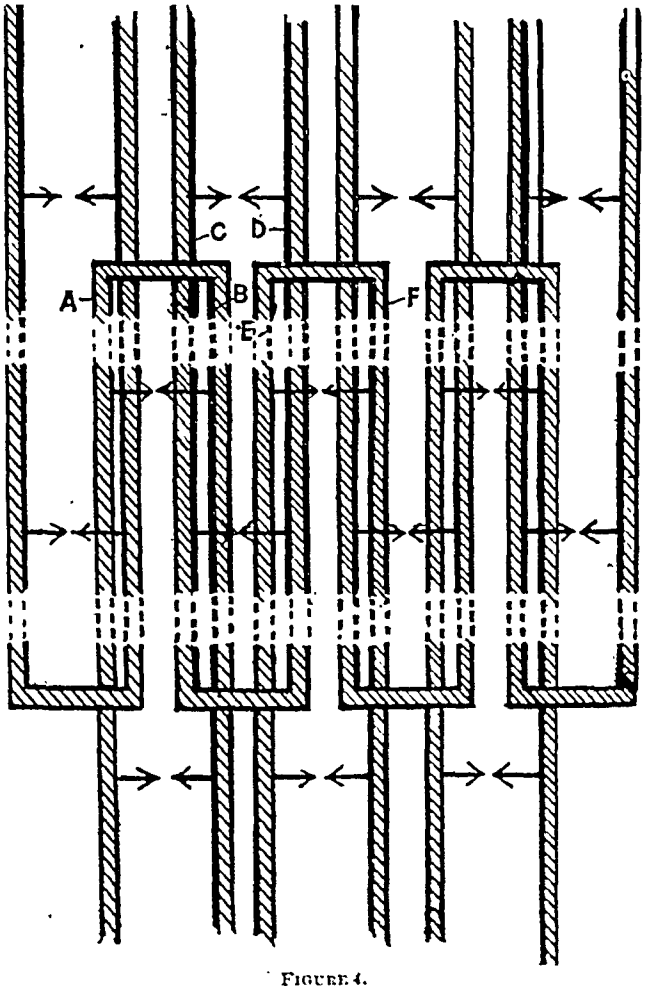

FIGURE 4.

The suture is obviously stronger than the continuous one, being interrupted, and stronger than the ordinary interrupted, because, from the method of insertion, each stitch supports its neighbors. It is *simple* and easy of insertion. It is much more *rapid* than other forms of interrupted suture; one lock-stitch covers the ground of two Halsteds and nearly four Lemberts, with perfect safety, because of the tension in two directions, and because of the lock arrangement. As demonstrated, there is *absolute insurance against escape of contents* of stomach, bladder or bowel.

At the Post-Graduate Laboratory of Anatomy and Operative Surgery, we are conducting an exhaustive series of experiments with this lock-stitch, the results of which will be given later and at length. The results, however, have thus far been most gratifying, but possible disadvantages may have been overlooked, and for this reason I wish to offer the suggested suture for the consideration of the profession.

MAY WE NOT FREQUENTLY DO GREAT HARM, RATHER THAN ANY GOOD, BY OFFICE TREATMENT OF FEMALE GENERATIVE ORGANS?*

BY MILO BUEL WARD, M.D.
Clinical Professor of Gynecology, University Medical College.
KANSAS CITY, MO.

The office treatment of female patients, for fancied or real diseases of their generative organs, is so common a practice that nearly every woman has been subjected to some form of treatment through a speculum, during her life.

In presenting this question for your consideration, the writer has no thought of condemning in a wholesale way local applications to the vaginal vault and presenting cervix, of such remedies as are harmless, in the treatment of conditions indicating the necessity for such applications. It might be well at the very beginning, however, to make the statement that, so far as my experience goes, the cases are rare among the great mass who come to our offices presenting *only* such trouble as may be seen through the speculum, and, therefore, require *only* the application of soothing drugs to the presenting parts.

Another statement that will hardly admit of successful controversy is that patients who are suffering from serious pelvic disease requiring frequent local treatments—if such are thought to be indicated—will be more harmed than benefited by coming to our offices. This leads to the statement that patients who are really suffering from disease of their generative organs, should remain at their homes, or be put in a hospital, where quiet can be enforced during the period of treatment, rather than come to our offices and undergo the physical and nervous strain incident to such an undertaking. Let us ask next: What are we to accomplish by the local treatment of diseased pelvic organs? Before enlarging on this proposition, we are willing to admit that such diseases as can be observed through the speculum may be benefited by judicious applications. How much of the uterus can be seen through the speculum? The answer is, only a small and trifling portion of this organ. What we mean by "trifling" is, that aside from malignant affections it is very rare to have diseases of the presenting cervix which cause suffering to any great extent and, perhaps, never invalidism. This, then, leaves the uterus proper and its adnexa beyond the reach of local application. We readily admit that the endometrium may be treated by local applications in our offices, but we do not think it ever should be, and because of the fact that it frequently is, the writer has been led

*Read before the Jackson County (Mo.) Medical Society, July 11, 1899.

to sound this note of warning. I insist that any treatment of the endometrium by the usual methods employed in our offices is a most dangerous procedure. Is it not a fact, however, that it is a custom for physicians to make applications to the endometrium almost as regularly as they attempt to treat women for diseases of the generative organs?

To me it is inexplicable that, with our present knowledge of the pathology commonly found in the appendages of women complaining of pelvic diseases, physicians should entirely ignore one of the most common causes of these conditions, namely, the passing of sounds and other instruments which abrade the endometrium and excite septic infection. If the endometrium is to be subjected to applications of medicine, this should be done only after thorough preparation of the patient and complete dilatation of the cervical canal, a régime which can not be carried on in safety in our offices. The carrying into the endometrium of small quantities of medicine on a cotton probang can not be expected to accomplish very much in the treatment of endometritis. This phase of the subject may be dismissed by stating that the management of endometritis, when of sufficient gravity to require treatment, should be made a surgical procedure, with every precaution that we are expected to exercise in these days of aseptic surgery.

The application of medicine to the vaginal vault for diseased appendages is quite as scientific as it would be for us to wash our faces in bichlorid solution, for the cure of postnasal catarrh.

Women suffering from diseased ovaries and tubes, who go to their physician's office for treatment two or three times a week, are surely objects of commiseration. Such patients would derive infinitely more benefit from the rest which they might obtain by spending two or three hours in bed the days they usually make these visits than they can receive from any treatment, however skilfully applied, by way of local applications to the vaginal vault.

In cases of hyperplasia of the uterus, great benefit is derived from topical applications, which may be done in our offices.

For displacements of the uterus, the local treatment at our offices often gives comfort, if no attempt is made to replace a retroverted uterus by means of instruments in the canal of this organ. Tampons of cotton or lamb's wool saturated with boroglycerid, or any proper remedy, placed high in the posterior fornix, with the patient in the knee-chest position, will afford temporary comfort and give some permanent relief by means of the depletion, the result of the medication. What should eventually be done with this class of cases is not my prerogative at this time to discuss. This, then, leads to the conclusion that in the treatment of the genital organs of the female it is essential that, first of all, a proper diagnosis be made regarding the pathology of the case under consideration. If the patient is suffering from conditions that may be benefited by local applications, with the assurance that no harm will come to the patient from either the treatment or the physical effort to reach our offices, then such treatment is laudable and should be encouraged.

There is no doubt that it has been the experience of every practitioner to have patients come to him for examination who have been under treatment for an indefinite period, and yet do not know—because they have never been told by their attending physician—the cause of their suffering. Let us, then, be thorough in our primary examinations, and if we can not satisfy ourselves the first time the patient comes, make a second, or third, or fourth appointment, until we are as certain as possible of the condition with which we have to deal, and then we can give the patient an intelligent prognosis.

Another objection to the routine office treatments is the question of the septic condition of our instruments. How many of us take the trouble to thoroughly sterilize our specula and other instruments used in the treatment of women there. Has it not frequently occurred to each of us that there is great danger of carrying infection from one patient to another unless our instruments are on each occasion thoroughly sterilized? It is safe to say that this precaution is frequently not taken, and therefore much harm is caused by even the simplest instrumental examination and treatment.

I am well aware that it is not a popular chord to strike, to criticize in the mildest terms office treatment of female patients, because this class of practice is a source of large revenue to the great mass of our practitioners. However, so many cases have come under my personal observation, of patients who have been under treatment for long periods of time, and by a number of different physicians, whose conditions when examined presented no indication for local treatment, but who were suffering from the gravest pelvic disease, that I have been led to make this mild protest against what appears to me frequently *very careless work* on the part of practitioners of medicine. I think it is our plain duty to state frankly to our patients our diagnosis of their condition; what the treatment is intended to accomplish; and the length of time likely to be required to bring about the desired results. I admit that this frankness will frequently cause patients to migrate to other physicians, but a knowledge of that fact should not swerve us from doing what we consider to be right and scrupulously honest in our professional transactions.

In conclusion, I can not refrain from calling the attention of the profession to the importance of a constant watchfulness over patients during the climacteric changes, and, in fact, from this important epoch for years afterward, if there is any history of pelvic pains, bloody discharges, and rapid loss of flesh and strength. The symptoms of malignant invasion of the uterus are so insidious that it requires the most careful observation to detect them before they have made such progress that relief can not be promised the sufferer.

We are then expected to treat conditions found, on thorough examination, in an intelligent and scientific manner, strenuously avoiding every method which does not promise benefit and may cause harm, urging our patients to report reguarly for examinations in case there are any symptoms which point to some lurking disease which may go on to serious consequences.

Therapeutics.

Treatment of Scarlet Fever.

Notwithstanding the opinion of the great majority of physicians that there is no specific for scarlet fever, there are a few physicians, notably Illingworth and Clement Duke, who believe that biniodid of mercury in doses varying from 1/2 to 1/24 grain acts as a specific, arresting fever and preventing desquamation. Shakhovsky, on the other hand, believes salicylic acid will prevent all complications, such as uremia, dropsy, diphtheria, anginas, and lymphadenitis, and remove them when present.

He employs the following formula:

℞. Acidi salicylici.....gr. xv
Aquæ destil. ferrid.....℥ii
Syrupi aurantii.....℥i

M. Sig. From one to four teaspoonfuls every hour during the daytime, and every two hours by night.

To prevent relapses, the mixture must be continued at longer intervals for several days after defervescence. He says that he has succeeded with this method in a large number of cases of malignant type. It is, however, useless when resorted to late, or, when there is present severe chronic disease.

Dr. Marcus P. Hatfield, in the "American Text-Book of Diseases of Children," says, regarding the general treatment of scarlet fever:

If the initial nausea is vexatious, it may often be allayed by:

℞. Aquæ cinnamomi
Liquoris calcis, āā.....ʒi
Tinct. gelsemii.....ʒss

M. Sig. Teaspoonful every hour.

For the high arterial tension and fever, tincture of aconite, given according to the plan of Ringer—i. e., a drop every quarter hour until arterial tension is decreased, and then given sufficiently to hold the pulse at that point, every two or three hours—is satisfactory.

Chloral hydrate is a favorite with the writer, almost entirely displacing the tinct. ferri chloridi of his earlier practice, except in those cases where there is malignant angina from the beginning. In such cases nothing has been found superior to the tincture of the chlorid of iron—one drop per dose for each year of the child's age—with whisky or brandy, given according to Dr. Chapman's plan. The surprising tolerance of such children for alcoholic stimulants shows that their power is expended otherwise than in their usual effects upon the brain. Many such children will take one-half ounce of brandy every hour without showing any of the usual physiologic effects. In ordinary cases, however, small doses of chloral hydrate seem to be all that is necessary to relieve restlessness, moderate the angina, and, to a limited degree, act as an antiseptic. For the first forty-eight hours such a prescription as the following has often proved most useful:

℞. Chloralis hydratis.....ʒss-i
Aquæ camphor.....℥ss.
Syrupi aurantii cort.....℥iss.

M. Sig. Dose, a teaspoonful. To alternate with aconite as required.

When the eruption is tardy in appearing, a hot salt or mustard bath will expedite matters, or, if these are ineffectual, packing in a sheet wrung out of hot water and sprinkled with mustard rarely fails.

Dr. J. Lewis Smith says:

The physician when summoned to a case, however mild, should never fail to take the temperature, note the pulse, inspect the fauces, and inquire in reference to the fecal and urinary evacuations, that he may detect early any unfavorable changes which may occur.

Since in all cases angina and more or less blood-deterioration are present, the following prescription will be found useful in mild as well as severe scarlet fever:

℞. Potassii chloratis .....gr. xv to xx
Tinct. ferri chloridi.....ʒii
Glycerini .....℥ss
Aquæ .....℥iiiss.

M. Sig. Dose, one teaspoonful every hour to two hours for a child of 3 years.

Glycerin and water appears to be a better vehicle in the above prescription than simple syrup, since it is more penetrating. Small doses of this medicine, frequently administered, act beneficially on the surface of the throat, and tend to prevent the anemia which is so common after scarlet fever. If the medicine be given gradually, or if the patient gargle with it before swallowing, and no drink be given subsequently for a few minutes, a better effect is obtained upon the inflamed fauces. Potassium chlorate in large doses is known to be an irritant to the kidneys, causing intense hyperemia of these organs, with bloody urine or suppression of urine. . . . Doses of 1/2 to 1 grain can apparently be administered with safety to children, so that not more than 15 to 20 grains are given in twenty-four hours. A quantity much exceeding this involves risk. In mild cases quinin is useful as a tonic and an aid in maintaining a mild type of the disease. I have employed the following prescription:

℞. Quininæ sulphatis.....gr. xvi
Syrupi pruni Virg.
Syrupi yerbæ santæ, āā.....ʒi

M. Sig. Dose, one teaspoonful every three to four hours to a child of 3 to 5 years.

The iron mixture, with or without the potassium chlorate, should be administered twice between the doses of quinin.

If constipation exist, an enema or some mild aperient may be given. Moderate diarrhea may need nothing more than a restricted diet. Should it be persistent and accompanied by fever, paregoric, either alone or conjoined with subnitrate of bismuth, will usually hold it in check.

Dr. Samuel C. Busey says that "restlessness, sleeplessness, and other mild nervous disturbances will frequently yield promptly to bromid of potassium. Convulsions, especially in the early stage, may also be controlled by it. The cerebral and nervous disturbances are so generally associated with the febrile condition that their proper treatment refers to the management of the temperature, and such measures as will reduce the fever will effectually control them."

Should the temperature range above 102 F. some one of the principal antipyretics—antipyrin, acetanilid, phenacetin, etc., may be employed, carefully watching the effect. Should the temperature rise above 103, and more especially in the hyperpyretic conditions with a temperature above 104, and perhaps reaching 106 or 107 F., some one of the more efficient methods of the application of cold water must be employed, such as cold sponging of the entire body frequently repeated; Ziemssen's graduated bath, by immersing the patient in water at 90 F. and gradually reducing it to 80; the cold pack of Currie, or the application of the ice-coil to the head. The condition of the throat demands special attention. Pellets of ice, frequent draughts of carbonic acid water, gargles of potassium chlorate or lozenges of this drug allowed to slowly dissolve may be all that will be needed. In the severer forms, spraying the throat with solution of hydrogen peroxid, or some antiseptic lotion will prove the most effective method of treatment.

Regarding cervical adenitis, Dr. Marcus P. Hatfield says that it is more frequently overtreated than neglected, for the swollen and tender glands apparently require immediate attention. And yet the trouble lies farther back, for the débris that blocks these inflamed glands come usually from the pharynx. Hence efficient pharyngeal and nasal cleansing will do more for adenitis than poultices, lotions, or ointments. Instead of poultices and iodin, simple rest and warmth will often work wonders, even in brawny, swollen necks, where suppuration appears inevitable. At all events, camphorated oil, applied on absorbent cotton, should be tried before proceeding to more vigorous measures.

Speaking of scarlatinal nephritis, Dr. Hatfield recommends that free diaphoresis be induced by means of hot baths, hot infusion of jaborandi (ʒi to O i. etc. The following diuretic mixtures have been highly recommended:

℞. Potassii acetatis
Potassii bicarbonatis
Potassii citratis, āā.....ʒii
Infusi tritici repentis.....℥viii

M. Sig. Teaspoonful every three or four hours to a child of 5 years.

℞. Liq. ammonii acetatis
Syrupi acidi citrici, āā.....ʒii

M. Sig. Teaspoonful every hour in hot lemonade.

℞. Potassii acetatis.....ʒss
Infusi digitalis.....℥vi

M. Sig. One teaspoonful every four hours.

Dropsy may require the use of some hydragogue cathartic. J. Lewis Smith recommends the following:

℞. Olei cinnamomi.....gtt. viii
Magnesii sulphatis.....℥i
Potassii bitartratis.....ʒii

M. Sig. One teaspoonful repeated from two to four hours until catharsis occurs.

In the later stages of scarlatinal nephritis iron may be indicated, either in the form of tincture of chlorid of iron, or Basham's mixture.

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BY

GEORGE H. SIMMONS, M.D.

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APPENDICITIS FROM A MEDICAL STANDPOINT.*

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ST. LOUIS.

Every appendix vermiformis, healthy or diseased, is a law unto itself. As its anatomy varies so also does its pathology. McBurney's is not always the only point at which to look for the appendix. It may deviate to the left, up or down, in fact it has been found in almost every region of the abdomen, and I once saw a man who, having, after a long illness, passed fecal matter mingled with the urine from his bladder, was operated on for supposed prostatic abscess and recto-urethral fistula without avail. A suprapubic operation revealed a previous appendiceal abscess, the appendix having rested on the bladder, adhesions occurred and ulceration into the bladder followed. None but the experienced would have dreamed of looking here for an appendicitis.

Indeed, we must remember that the various parts of the human anatomy vary as widely as do individuals, viewed from any standpoint. The primary necessity *for a case of appendicitis is to have a physician in charge* who can make a prompt diagnosis. It may be said that this is the case in all forms of disease, but it is more so for the successful management of appendicitis than for almost any other lesion.

Let us all remember that every case of abdominal pain, cramps or pain in the intestines is a possible appendicitis; that any history of a previous typhoid fever, inflammation and congestion of the bowels or ovaries, and peritonitis is a possibly unrecognized appendicitis, and that every victim of indigestion, particularly intestinal, is on the verge of appendiceal inflammation at all times, particularly if he eats to excess or goes on a debauch. Let us keep in mind too that the victim of la grippe, the uric acid diathesis, and he who worships at the shrine of the "Three L's"—laziness, luxury and lust—is prone to the disease under consideration as well as the athlete. Appendicitis has been classified as catarrhal, ulcerative and perforative, but it is well to realize that an attack is inflammation of the appendix and it is impossible to draw sharp lines of distinction.

We physicians must learn, and we must teach the fact to the laity, that an attack of indigestion, cholera morbus, diarrhea, accompanied by pain in the abdomen, intestinal cramps, etc., must be treated intelligently along the lines of helping Nature to get rid of offending material, always recognizing pain as Nature's signal that something is wrong, and that it is our duty not to cover up and mask the sign but to coax and coddle it by simple means, securing its help in locating its cause.

*Read before the Mississippi Valley Medical Association, Chicago Oct. 5, 1899.

I do not hesitate to say that the physician who would administer sedatives or pain-killers to a patient before making an approximate diagnosis, even though it demanded an all-night visit, should be condemned as much as for dosing and deserting a woman in labor, without making the examination necessary to determine the position of the child or the stage of the labor, with a view to obtaining his own quota of sleep. The patients to whom I have referred are mistreated unless the attendant secures a thorough clearing out of the bowels—at least of the colon and stomach—before applying remedies which check peristalsis, and this can be best and most easily accomplished by means of hot water used freely internally, from both directions, and externally in the form of a hot all-over bath or the hot wet-pack. The stomach may be well washed out by the drinking of one or two pints of hot water, or by the stomach-tube; as water is ejected and the washing is complete: another pint or two may be introduced, and quiet enjoined on the patient, with the head low, an ice-cloth to the mouth, a mustard plaster over the "pit of the stomach," will result in the water's retention; stomachic tranquillization will follow, and pyloric relaxation will soon convey the water into the bowel. If now repeated, large high-up enemas—and no syringe is complete without a long rectal tube—*should be given, one-half gallon, more or less,* of hot water freely mixed with soap; the water to be 101 F.: there will be a pronounced peristaltic wave of all down the line, and irritating matters, undigested food, ptomains, etc., will be freely carried out, and whether we have a case of appendiceal trouble, beginning typhoid fever or what not, our patient is in better shape. A colon and ileum loaded with fecal matter is a good riddance, no matter what we have before us. Lavage of the colon or free flushing will start the current from the stomach downward.

As evidencing the value of colon lavage, Bidder, Schmidt, Zolesky, Rosenberg, Krull, Lowenthal, Barlura and others have clinically reported that the flow of bile, urea and, indeed, of all the secretions, is greatly increased. The eminent and painstaking specialist in gastro-intestinal disease, Dr. Fenton B. Turck, of Chicago, after numerous careful experiments and laborious effort in the treatment of the abdominal viscera through the colon in a large number of patients, has proven that the high-up introduction of water of a temperature of 131 F.—owing probably to the favorable arrangement of the nervous mechanism and the reflexes of the colon—into the colon, increases the blood-pressure; the kidneys are stimulated—elimination of urea almost uniformly doubled—hepatic function increased, greatly increased leucocytosis induced, all the effects resulting in a general accelerated metabolism, oxidation and elimination; in short, the result is general cell activity.

Surely an all-night séance, if need be, with the acutely ill, resulting in a clearing away of fermenting food, re-

cumulated fecal matter, ptomains, etc., whether the patient be in the initiatory stage of severe appendicitis, typhoid fever, scarlet fever or it matters not what, places him in a position more favorable to a mild course and prompt recovery.

I feel that I am justified in crediting the uniformly favorable termination of my intestinal cases for several years back to the fact of having given them the benefit of complete, prompt intestinal evacuation by means of repeated colon lavage. I have found it well in some to administer broken doses of calomel triturates—⅛ gr. —every hour, washed down by a glass of hot water, for ten or twelve hours, followed by half a tumbler of a saline water; this is in conjunction with the colon lavage.

We must not take the word of the patient or his attendants regarding the evacuation of the bowels or anything else pertaining to the case, until we have corroborated the evidence by all our five senses. After our diagnosis is made, at least approximately—and I claim that we or our assistant should remain with our patient until this is done—we may be safe in giving some potent pain-reliever if the suffering demands it, but opium should not be administered in any form—the same as in administering chloroform or ether—until radical interrogation of the kidneys and general idiosyncrasy establishes the fact of its safety; it should not be given at all unless we are absolutely sure that we are safe in ruling appendicitis out of our calculations.

Three deaths definitely, and possibly more—observed within a year—from uremia, superinduced by morphin in cases of acute indigestion, complicated with crippled kidneys which were not previously suspected, emphasize in my mind the point made above. Had the hastily summoned physicians met the emergency properly, they would have made their call an all-night investigation instead of a hasty and reckless use of the Mephistophelean morphin in the hypodermic syringe. At this point let me urge with all the emphasis at my command that the hypodermic syringe is mightier than the sword in the hands of the ignorant, the lazy, the thoughtless or the backboneless doctor. After the alimentary canal has been entirely emptied—and not till then—we can thoroughly investigate it, and the complete intelligence and acute sensibility of the patient is essential to this investigation. On general principles it is very exceptional when a victim of abdominal disease, medical or surgical, is not better, either before diagnosis or after, without opium than with it.

Let it not be forgotten that the pain of an appendicitis may be anywhere in the abdomen, and it is often least marked at the real site of the appendix—at least in the beginning. We all know how hard it is to definitely locate the intense pain of an ulcerating tooth, and we must keep in mind the scattered reflexes of the abdominal cavity. In a general way the reflected pain is apt to appear near the navel or in the vicinity of the stomach, and not above the diaphragm, as it is in gall-bladder and bile-duct disturbances, nor near the end of the pelvis or the thigh, as in irritation of the urinary bladder, though sometimes—as stated by Morris—the pelvic ganglia are excited to the point of radical appendicitis reflexes along the lines that are disturbed by a stone in the bladder. Palpation with the fingers of both hands, the one inside and the other outside of the abdomen, is the only method for obtaining evidence in a case.

Robert T. Morris, the first authority in America on appendicitis, relates in some of his literature the remark of one of his fellow students in college days, who was instructed to examine a uterus, in the dispensary service. Morris says: "My companion introduced his finger into the vagina, and after poking about for a while informed the instructor that the uterus felt just like the middle ounce of mush in a pailful of mush. I have little doubt that to-day this man can make out not only the different parts of the uterus on palpation, but also the ovaries and oviducts, and perhaps the ureters if he has taught his finger tips with as much care as he would employ in teaching a setter pup to retrieve birds."

I have been amazed almost uniformly, when called to cases under the care of some medical attendants, to find that they have not made a thorough investigation by first emptying the colon and then palpating the abdomen with one hand, with the forefinger of the other introduced up through the rectum. Here let me urge a more liberal education of the sense of touch on the part of the physician—it took me ten years to unlearn the excessive importance of the fever thermometer. It is often valuable, but the pulse is a hundred-fold more so, whether the lesion be abdominal, pulmonary, cerebral or cardiac, and I fear the clinical thermometer has been largely responsible for the absence of pulse-knowledge in our profession during the last two or three decades. Let us cultivate the *tactus eruditus* which will enable us to almost close our eyes and make a good diagnosis. We may take points from those specially skilled diagnosticians in our profession, who have made the affliction of blindness intensify their sense of touch and hearing to such a degree as to develop them almost to the point of being wizards of diagnostic wisdom. The eminent Dr. Babcock, of Chicago, is a shining illustration of this thought.

I have studied the question under discussion carefully for many years, but three years ago a loved one of mine fell a victim to appendicitis, and for eighteen months suffered constantly, during which time I practically relinquished work, giving attention to this case. I very naturally devoted myself to the special study and observation of the subject.

I do not propose in this paper to consider or quote the views of other men—and there has been no line written nor thought enunciated that I have not carefully read and weighed—but my own conclusions, and I must say that they are not of a character to make me proud of my profession as a whole, viewed from the standpoint of appendicitis. It appals me to recall the advice freely given to me by men very prominent in our profession, against surgical interference, some going so far as to say that they had never had a patient operated on and had never lost one.

No physician's dictum is worth anything on the subject unless he has been a persistent student and placed himself in a position to have exhausted the entire literature of the subject and to have seen many hundreds of cases, viewing them calmly, medically and surgically without prejudice, keeping in mind the thought in relation to the victim: "Put yourself in his place." Prominent authority has well said: "An immense amount of bad advice is given to appendicitis patients by physicians who are not informed, and who do not know the contents of the text-books of our authorities upon the subject. It is not the fault of physicians, but of society in demanding of physicians so much information upon so many subjects that it is a physical impossibility for them to cover the ground." This may be true, but society does not demand that a physician should assume to know things of which as a matter of fact he is completely ignorant. God help the family or the patient under the care of a universal specialist who is so busy that he can

never go to a medical society and get the benefit of other men's views and experiences, and have the helping effect of criticism!

Moving as we do, in a narrow groove, going from house to house, where our word is law and few dare say nay, we run great risk of becoming dogmatic autocrats, saturated with the idea that we know it all. I sometimes think it would be fortunate for us and for humanity, as well as science, if every medical case had two physicians instead of one. Then, as in legal cases, where there are always two attorneys pitted against each other, each would be stimulated by the other to his best. Indeed, considering the supernumerary physicians in every community there would be fewer idle ones under such conditions.

Unfortunately for us and for our patients, we as it is, are counsel, judge and jury, and sometimes executioner, I fear. I believe a law should be passed that no capital operation should be performed until at least three to five experienced and well-equipped practitioners shall have passed on the case—the major number to be established surgeons—and no two of them in the same medical college. I believe further that every hospital, private as well as public, should be rigidly inspected by legalized competent authority, and that not only should every licentiate to practice medicine be made to pass a proper examination, but that every practicing physician should have to give evidence every five years of his ability to continue in the work. Unless a physician be especially skilful and dexterous in the handling of tools, the knife, the scissors, the needle and thread—a good mechanic, an artist—he ought not to do surgery of any kind. A good surgeon with a deft, delicate hand had far better graduate from a manual training school, serve a short apprenticeship to a tailor, a carpenter, a sculptor and a draughtsman, than to have spent years with the classics and delving into bacteriologic lore. John Hunter, Ephraim McDowell, Marion Sims, Lawson Tait, Joseph Price and Robert T. Morris are striking examples of born surgeons, plus work. And, by the way, we may well ask if we are not "stuffing" too much in our four or five years at medical college, and losing much by relinquishing the old-fashioned apprenticeship of three or four years as understudy to a good preceptor.

If these are the requisites for the general surgeon, they are doubly so for the one who does abdominal work. Except in rare cases the general physician should not do surgery, and the general surgeon should not do pelvic or abdominal surgery any more than he should do eye surgery. In sparsely settled neighborhoods, for a little time to come, in emergencies, the physician should be equipped to do anything and everything: but rapid transit is eliminating distance so fast that all will soon be in reach of the special skill of those in large centers: as a matter of fact there is no reason why the country surgeon, if well endowed for the work, should not with the numerous post-graduate facilities equip himself well for every demand. Lawson Tait, the provincial surgeon of England, Ephraim McDowell and Marion Sims, the country surgeons of America, should stand as examples to all rural workers as to their possibilities. In every community, self-interest and humanity demand that the physicians get together and take stock as to their respective capacities and divide up the work. There is not a section in America to-day where there is not a liberal supply of physicians, and no one man need be so overcrowded as not to do good work. We must all remember that the man in our profession who is in the work for the money that is in it is unworthy. The misfortune is that the numerous "wild-cat medical colleges" of the land, which have inveigled the untutored and ill-prepared from a thousand hills into the realm of medicine, are largely responsible for many evils in our guild.

Unfortunately there are too many who are surgically ambitious, not that they are specially graceful and well equipped along these lines, but the Bob Sawyer spirit in them prompts a love of the chances for the grandstand appeals to the groundlings—the "vulgar herd" who think that the man who can carve and leave his trail in blood is the really great man in the profession. As a matter of fact we should realize that this same vulgar spirit of the mob prompts them to idolize the brutal victor in a prize fight or enjoy a hanging, and we should more of us determine to devote ourselves to the less appreciated, but really more skilful field of diagnosis, therapeutics, physiology and pathology, and leave the realm of surgery to the born mechanic-artist, and give him our earnest co-operation and support. I sometimes fear that the prospect of larger fees allures men into the domain of surgery, men whose fingers are all thumbs, and who are as awkward in handling the scalpel as "the Man with the Hoe" would be in wielding the poet's pen, the painter's brush or the sculptor's chisel.

This brings me to the relation of the specialist in internal medicine and the surgeon, which is surely a delicate one. We should demand of the surgeon, if he expects our support, that he be worthy of it by first of all fitting himself by knowledge and experience gained for the work, under master surgeons, and after not less than ten years of general work we should demand absolutely—and it takes ten years to develop a man's special fitness—that he limit himself to surgery. How else can we co-operate? Surely if he accepts our case of surgery sent to him as a surgical expert, he should decline our patients who go to him for medical service allured by the thought that our reference of cases to him announced his general superiority. Any other course is not honest but hoggish.

Furthermore, I insist that any patient under the care of a good physician, a good diagnostician, competent to know when surgical interference is demanded, and just and generous enough to give his patient the benefit of expert manual and mechanical skill, still needs the constant care of his physician along medical lines so that he should remain with the surgeon, if he be not in attendance on some infectious disease at the time, the two in conjoint care of patient and equally responsible, no visit to be made—except in emergencies— by either without the presence of the other. The physician is responsible for the diagnosis, for the selection of the surgeon, for the work as done, and is entitled to exactly the same fee as that of the surgeon if his reputation be as great, and larger if it be greater.

Indeed, in all cases, a physician, the same as a surgeon, should charge a fee for attendance, in harmony with the severity of the case, the responsibility involved, the value of the life, the ability of the patient to pay and commensurate with his own reputation. In such cases bills should be rendered synchronously and payments made equally, neither being a preferred creditor. The question of commission can not be discussed by honorable men, but the time has long since passed when the surgeon should deem himself the grand "Poo Bah" and generalissimo of the profession: now such an one runs the risk, very properly, of being considered a "Jack at all trades" and good at none.

When doctors and surgeons arrive at a full knowledge of not only how to spell the word reciprocity, but its

full meaning and the golden rule—"as ye would that others should do unto you, do ye even so to them"—as well, there will be more good doctors and a smaller number of poor surgeons with a goodly number of good ones, and the latter will not need to cut rates with each other for surgical operations, and make visits in large numbers in competition with medical men. Keeping in mind our duty to ourselves, to humanity and to God, there need be no trouble regarding the relations of the physician and the surgeon, but I hope I will be understood when I say that I believe the misinterpretation of our Code of Ethics protects mediocrity, general incompetence and almost criminal ignorance and recklessness in physicians and surgeons.

Physicians in almost every community are passing as surgeons and expert physicians—protected by the mantle of membership in our societies—who are painfully incompetent, and in many cases they are more devoted to the discussion of our Code of Ethics than they are to science. Unfortunately nerve, audacity, secret societies, church connections and a love of lucre secure them cases for medication, manipulation and evisceration.

Reckless surgery in incompetent hands has been responsible for much of the aversion of the public to surgical interference, in many cases demanding it. Happily for physicians, their work and results from incompetence are not so apparent.

I have taken it for granted that every member of this learned body is familiar with abdominal surgical literature, and those who have made that which is authoritative have written as ideal surgeons working under proper conditions, and I take it that that is what every man who does surgery should be and can be if he tries, and if he can not, then he should abdicate in favor of the man who can.

Considering surgical interference in appendicitis to mean interference by men as capable as Tait, Price, Robert T. Morris, Reed, McMurty, J. B. Murphy, Ochsner, J. B. Deaver and such as these, I conclude that appendicitis from a medical standpoint means that the earliest possible diagnosis should be made, and the appendix should at once be removed. Handled medically, the mortality is about 25 per cent., but of the seventy-five out of one hundred who recover, we can never know how many have recurring attacks, and how many remain through life chronic invalids or die of other diseases invited by their unhappy condition.

In the hands of ideal surgeons—the expert abdominal surgeons, I mean—the mortality announced—and I have personally observed the truth of the claims made by some of our best men—is from 1 to 3 per cent.; but even say it is 10 or 20 per cent., are we not all anxious to save five, ten or fifteen lives, or even one, out of a hundred. I insist that with the light we now have and the record now made, if a surgeon makes a poorer showing there must be something wrong with his methods, and he should, in the name of God and humanity, correct them, and unless he does he should be made amenable to the law. The surgeon who does not believe in rigid asepsis as applied to his patient, his instruments, his entire paraphernalia and his personality, should be eliminated, the same as the physician should be who does not accept in a judicious way modern medical methods in the treatment of disease, as for instance, one who with the evidence before us denies his patients ill of diphtheria the benefit of antitoxin.

At this point let me remark that there is either something in antisepsis and infection or there is not, and if there is, no man should be permitted to attend surgical cases, or parturient women, who gives his services to cases of scarlet fever, diphtheria or other forms of real or supposed infectious diseases. With the knowledge we now have I assert—in all kindness—that the physician or surgeon who attends both infectious and surgical or obstetric cases is either ignorant or reckless, and in either case is open to charges of malpractice, and since the world is well supplied with doctors there is no emergency excuse that can be presented in extenuation.

Are we not correct in insisting that those surgeons who work in sacred regions—speaking anatomically—and where a single germ may be fatal, when elsewhere the general result would be but little affected, shall guard themselves against carrying infection, and so limit their work and husband their physical and psychic resources as to always be in such good form that their five senses, the sixth also—common sense—but most of all the seventh—moral sense—shall be acutely alert and their hands shall have their fullest cunning? The victim of excessive fatigue, drink, drugs or disease is in poor form for practicing medicine, but least of all, surgery. The half-sick doctor in charge of a patient is an epitome of the blind leading the blind, and all these points are arguments in favor of every medical and surgical worker limiting his labors and having a pride as the years pass in not doing more work but better work, and having his patrons say, "how well you do your work," not "how cheap," and realize that there will be one or more months in every year that his services are not available, as he is taking his proper vacation, recreating and seeing how the good workers the world over do their work.

I have seen surgery almost from the time I was 14 years old, and at the hands of masters, and I know well that the happy-go-lucky, careless, modifiedly maniacal manifestations of Jack the Ripperism operating seemingly for the emotional pleasure—almost suggesting the insanity of sadism—the knock-down-and-drag-out, the sloppy, unclean type of surgeon, as well as the overworked, fagged-out general practitioner, and the man who has had only limited opportunities for gaining knowledge of the best pathology and technic and securing proper practice and skill in a general way, should be called down and not permitted to invade the abdominal cavity. Too many men read the records made by the masters, then browse around for a week or ten days in some clinical amphitheater and fancy themselves full-fledged experts in abdominal work, when as a matter of fact they can not interpret the pathologic conditions they may find any more definitely than they can correct them.

In observing the work of those most successful in abdominal surgery, I have noticed that the abdominal incision was usually small—about 1½ inches—the instruments few, and few or no other hands permitted to touch the field, the material or the instruments used, and quickness of work was uniform, so that the abdominal interior was exposed the briefest possible time.

It has been my good fortune, during the past two years, to have had a goodly number of appendicitis cases under my care. In every one that I have seen *de novo*, I have made my diagnosis before leaving the house, and have always advised operation, urging it where the conditions and symptoms justified, and in all my patients where surgery has been accepted it has been successful. In cases where I felt that while an operation was indicated, yet it was not urged in order to save life, and where it was declined, I have had no deaths, but they were mostly in children, and I am not sure but that they might have been typhlitis stercoralis; though in several

cases such impairment of the intestinal diegestive functions followed as to suggest the need of operation, but it was declined. It is difficult to prevail on parents—or anyone else for that matter—to have a child undergo so formidable an operation unless danger is imminent. This fact is a strong argument in favor of prompt operation where the conditions permit, rather than wait for a chance to interfere in the interval between attacks.

I have seen a number of sad cases at the eleventh hour, after several days' illness, where no diagnosis had been made until it was too late. He is a brave surgeon and an honest one who will give such an unhappy case a chance for his life. All too frequently surgery is blamed for a death which should be charged to medical incompetence. Only a few days ago a hurried summons took me to an unhappy woman with placenta previa, who was not far from death's door, having been treated for weeks with pills and potions, when the evidence that either interference or reference to a surgeon was demanded, was overwhelming. My colleague, to whom I referred her, may not be able to save her life, but he deserves all praise for the effort where the chances are so greatly against him; but what shall we say of the masterful inactivity of her medical attendant?

I have been repeatedly surprised to see patients in whom the symptoms were not urgent, temperature under 100, pulse not over 90, and yet operation revealed a gangrenous appendix, which clearly demonstrates the difficulty of determining the conditions without laparotomy. What a changed picture a few hours would have shown in these cases.

I take the following from my case book: J. M., a fine, robust fellow, aged 19, taken on Friday with pain in the bowels, sent for a physician Saturday morning, and was given opiates. He was visited again on Sunday morning, and the treatment continued. Friends called me at 3 o'clock that day. I found a pulse of 120, temperature 103.5; local and general evidence revealed a clear case of appendicitis. I tried to reach the previous physician before giving an opinion, but failed. As there was no time to lose, I advised immediate removal to the hospital and operation. This was done at 5 p.m., the suffering of the patient being intense, temperature 104.5, pulse 140. Dr. John Young Brown, a former pupil of Price, and a worthy ex-president of this Association, to whom I am under great obligations for uniformly successful service in many cases, operated; revealing a sloughing appendix, a mass of gangrenous omentum, and an abdomen full of serum and organized lymph. He cleansed the cavity with warm, normal salt solution, and drained with a wick of gauze in a rubber tube. In an hour temperature was almost normal, pulse 90, and it did not go higher. The young man was up and about home at the end of three weeks. Without the operation he would have been dead within twenty-four hours.

A series of chronic cases has come to me which is quite instructive. One will represent the class. W. B. S., a physician of marked intelligence and experience, consulted me for chronic indigestion and general ill health. I examined all his organs, by exclusion locating his trouble in his abdomen. I had my diagnosis made, but in the hope of having the evidence so strong as to be able to clearly demonstrate to him his condition, I emptied his alimentary canal by purgation and high-up enemas, soon leaving a flat collapsed abdomen, and a completely empty intestine. Without difficulty I demonstrated an enlarged tender adherent appendix, which I determined on as the long-standing cause of illness. As Morris says, "an inch and a half incision and a week and a half in bed" returned him to his professional work. But a few months have passed; he has gained considerably in weight, is the picture of health, is happy and has no "nerves." His ill health dated from a supposed typhoid fever of ten years before, when a boy—an overlooked appendicitis. The diagnosis made evident a history of repeated severe attacks of intestinal indigestion which were really recurring attacks of acute appendiceal inflammation. This case, with the others of the group, demonstrates the importance of surgical interference from a medical standpoint in these pathologic appendices which serve as reflex irritants to the alimentary canal, engendering general indigestion, ptomain poisoning, auto-infection, neurasthenia, imperiling life and making it not worth the living, aside from the surgical peril of a recurring inflammatory explosion. The surgeon was as essential to the proper management of my patient's general intestinal indigestion, from a medical standpoint, as the dentist would have been had he had a mouth full of decayed teeth.

Were I to have appendicitis in my own person, or that of a patient—with or without history of previous attacks—having determined that no chance of perforation was imminent, I would have the intestinal canal cleared out completely, as far as compatible with safety, and diagnosis definitely made along the lines suggested in the outset of this essay, the pain controlled by hot or cold applications—ice-bags, etc., but not too heavy—and by a snug, firm, abdominal bandage. Before applying the binder I would cover the entire abdomen with a sheet of oiled silk next to the skin, on top of this a layer of cotton batting. It is surprising how completely we can subdue peristalsis by these means and to the same degree relieve abdominal pain.

The absolute withholding of all food—not even sickroom slops being permitted—for several days or a week, or even longer, in some cases, will be well. Many of my colleagues recall the experience of Dr. Tanner, who fasted for nearly or quite forty days some years ago, demonstrating the possibilities in this direction. Our acutely ill patients are all the better for several days of absolute abstinence from all food. The intestine being entirely freed from undigested food, fermenting fecal matter, gas and ptomains, and nothing being eaten to re-arouse alimentary activity, surely the conditions are ideal for perfect intestinal rest.

In discussing appendicitis we must rule out of consideration those cases of typhlitis stercoralis, where there is only a mild degree of irritation or inflammation of the cecum associated with lodgment of feces, whose subjects are usually constipated, and cured within a few days by intestinal flushing, quiet and proper diet. When I hear medical men report a large array of cases of appendicitis cured medically, I am prone to think they have taken an exaggerated view of some of their cases of typhlitis stercoralis. These are not infrequently met with in constipated women, more particularly young boys guilty of errors of diet. The very fact that the majority of these terminate favorably and do not recur, as Wm. Pepper remarks, is opposed to the belief that they are all dependent on appendix disease. And yet we must be ever on the alert, for even these without marked constitutional symptoms, with almost normal pulse and temperature, have been known to develop perforating ulceration of the cecum: Fitz reports three such cases and Osler has reported two.

The truth of the matter is, the very elect can not say as readily what are the pathologic conditions present about an irritated cecum and appendix before abdominal sec-

tion as after. Definite appendicitis is primarily a surgical disease, and if a special abdominal surgeon be available in case I am attacked, I shall be operated on; if not I shall eliminante, starve, rest my intestinal canal, apply the abdominal bandage, but not the opium splint—except in the rarest of cases—and trust to God and the *vis medicatrix Natura*.

In brief, ideal surgery—if available—with 1 or 2 per cent. mortality is better than 20 or 25 per cent. mortality under medical or expectant treatment; but the latter is to be preferred to the chances of surgical interference at the hands of average general surgeons or practitioners. Under the above plan, if my patient dies I will feel as my old friend, the late Dr. Guhman, used to say, that "I had let him die honest."

Were I ten years younger I would, on account of my strong convictions on this question, go to some of the masters mentioned above and become a pupil for a year or more, if necessary, providing my hand could grasp their superb technic, that I might devote my remaining years to all sides of this question. As it is, I shall continue to study and observe these interesting problems in the hope that I may be helpful in the equally important realm of diagnosis as related to their elucidation, and I trust that my co-workers will bear with me if they deem my position as here presented too radical.

OBSERVATIONS ON ASCH OPERATION FOR DEVIATION OF CARTILAGINOUS SEPTUM.*

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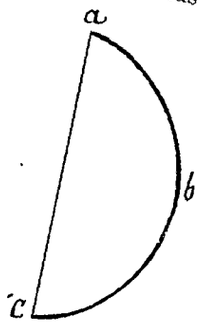
It is not so very long ago, not too long for the older ones among us to readily remember, that deviation of the septum was considered a veritable bugbear by the majority of rhinologists. The methods then in vogue to remedy this deformity were few and not generally satisfactory, so as to insure permanent results and relief of the train of symptoms produced by the more or less pronounced nasal stenosis. It is beyond the limits of this paper to enumerate all the different methods that have been devised, beginning with the compressing forceps of Adams, or even with the procedures of the older surgeons, as Dieffenbach, Bolton, Gunn, Chassaignac and many others; nor do I propose to enter into any discussion of the etiology, pathology and symptomatology of this deformity and its local and general consequences for the patient. An immense progress, as far as the relief from stenotic and other conditions is concerned, which are produced by projections from the septum of whatever nature, was made when Bosworth, in 1886, devised his nasal saw. He opened up an entirely new field of nasal surgery by this procedure, and it looked as if all the difficulties resulting from anomalies of the septum had then come to an end. However helpful and [illegible] this device—simple as it was—proved to be, [illegible] still that large class of cases in which the triangular cartilage was bent toward the one side or the other, or sometimes in the shape of an *S* toward each side, causing one or more of the consequences of a nasal stenosis, which could not be relieved by sawing of a spur. There were the cases in which most of the other methods failed, for the reason that the natural resiliency of the cartilage was not overcome. The other methods then in vogue can be divided into two groups, according to their general principle. They either attempted to simply push the curved cartilage by force into the normal position and keep it there by all kinds of devices, or they fenestrated the triangular cartilage at its most projecting portion by cutting a more or less extensive piece out of it, sometimes with preservation of the mucous membrane on one or both sides. It can not be denied that either of these methods may have been successful in certain cases, but in the majority the results were not permanent, for in principle both methods are wrong. The deviated cartilage has an enormous resiliency, which can not be overcome by simply bending it in the opposite direction and holding it there for a little while. Compare a piece of good strong watch-spring (*a, b, c,* Fig. 1), and have the two ends firmly fixed to unyielding supports (*a* and *c*), the main piece forming a slightly curved arch (*a, b, c*). Is it possible to press this spring into the straight line (*a* and *c*) and keep it there? This is not possible without breaking the spring, and thereby destroying its resiliency. And, furthermore, we all remember, from our first lesson in geometry, that between two points (*a* and *c*) the shortest is the straight line; all others are of necessity longer. Now, this applies directly to the subject under consideration. The resiliency of the cartilage must be first completely destroyed before it can be expected to be pushed into its proper place and be kept there, and this can only be done, as in the case of the watch-spring, by fracturing it and incidentally gaining sufficiently thereby to adjust the longer arch into the shorter straight line.



In my earlier days I have used the different methods one after another, and had finally adopted the method of Roberts,[1] described in 1884. It consists in the main in making a long incision with a curved bistoury along the crest of the deviation, supplementing it, if necessary, by additional incisions and then keeping the straightened septum in place by steel pins, which are introduced through the unobstructed nostril in front of the incision, then carried across it, and finally buried in the mucous membrane of the vomer. This method was more satisfactory to me than others, but was given up for the operation devised by Dr. M. J. Asch, when I became acquainted with it, because it has given me such uniformly good results and appeared to me so much in advance of every other method described at that time, that I have used it since to the exclusion of other methods. The method was originally described by Dr. Asch,[2] and modified from time to time, as described by Dr. Emil Mayer,[3,4] and the originator himself[5]. As this method has neither in this country nor abroad become sufficiently known to the profession, as is evidenced by the fact that even text-books that have only lately appeared do not make any mention of it, it may not be out of

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[illegible] (JOURNAL, Sept. 2, 1899, p. 62)

place to describe its technic as practiced at this time.

The instruments as devised by Asch and used at present are the following: A pair of scissors or cutting forceps. They are made in two sizes, the blades being at the distal end of two strong shanks, which curve outward from the lock and meet again in front. One blade is narrow and blunt, the other triangular and sharp. (Fig. 2.) Through this arrangement they act on the principle of the button-hole scissors. There is also made a pair of angular scissors (Fig. 3) which may be used to advantage in deviations that lie low down on the floor of the nose or in those requiring an incision downward. There are two strong compressing forceps (Fig. 4), with two long or short blades respectively. The blades have a perfectly smooth inner surface, are attached at an obtuse angle to the branches of the forceps, which form a curve between the lock and the blades proper, thus excluding any danger of crushing the membranous septum of the nose upon closure and

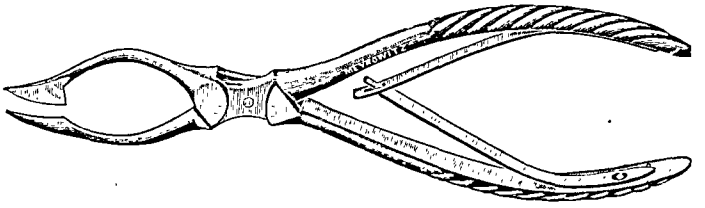

Fig. 2.—Asch's Straight Septum Scissors.

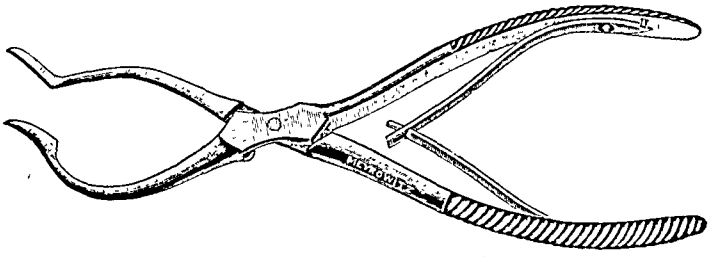

Fig. 3.—Asch's Curved Septum Scissors.

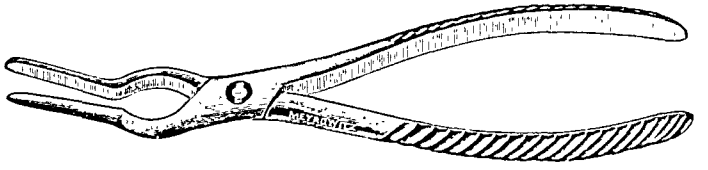

Fig 4.—Asch's Compressing Forceps.

also leaving a space of 1.5 mm. between the closed blades, thereby preventing any injury to the mucous membrane from too close approximation. There are also blunt and sharp separators (Figs. 5 and 6) to break up any adhesions that may exist between the deviation and the inferior or middle turbinate body and to detect the existence of obstructions posterior to the deviation, and to destroy them if this should be necessary. A set of six hollow vulcanite tubes, with perforated walls, completes the outfit. The original tubes (Fig. 7) were somewhat smaller—only five to a set—and more rounded; the shape and size of the present tubes (Fig. 8), with more flattened walls, and six of them forming a set, were suggested by Dr. Emil Mayer and are generally known as the Mayer tubes. They are, as experience has shown, better adapted to the purpose for which they are used and are, as I understand, in general also preferred by Asch himself.

For the operation the patient is prepared in the usual manner, as it is ordinarily performed under general anesthesia. It is needless to say that all instruments, as well as the hands of the operator, must be carefully sterilized. Asch washes the nose out before operating, with an antiseptic spray. I personally omit this, as the nasal chambers beyond the vestibulum have been proved to be free of pathogenic germs in most cases; whereas, if they should contain them, the ordinary spray would not be possessed of any germicide action. However, I always have the skin of the face, and particularly of the nose, the upper lip and of the vestibulum thoroughly sterilized by scrubbing with soft soap, alcohol and 1-1000 solution of bichlorid of mercury, with the object of reducing the possibility of contact infection to a minimum, and with this end in view insist also on shaving, especially of a moustache, as it is impossible to thoroughly sterilize this nidus of infection carriers. The operation is usually done with direct light, but may also be performed with the reflected.

As soon as the patient is completely under the influence of the anesthetic the head is well drawn over the head of the table so as to prevent any blood from entering the larynx. The blunt separator is now introduced

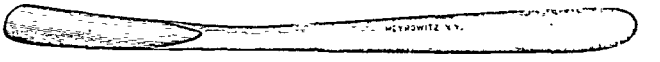

Fig. 5.—Asch's Blunt Separator.

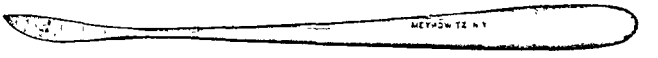

Fig. 6.—Asch's Sharp Separator.

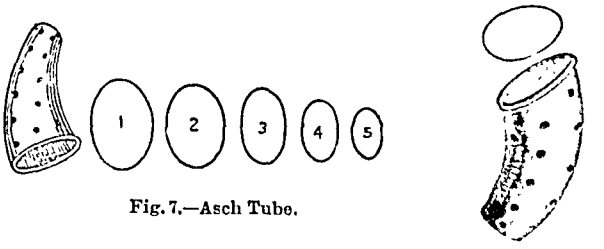

Fig. 7.—Asch Tube.

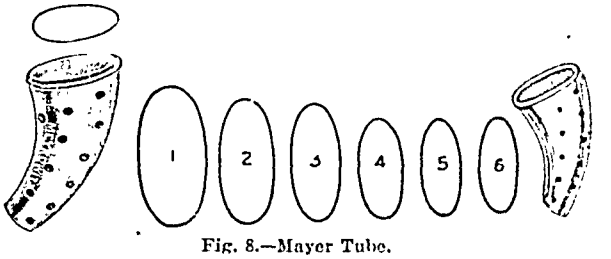

Fig. 8.—Mayer Tube.

into the narrowed nasal fossa, to sever any adhesions that may exist between septum and turbinates, and to discover the presence of posterior obstructions. If found they are opened with the sharp instrument, which is constructed after the fashion of a gouge. Should at this stage a brisk hemorrhage occur, which is however rare, it is readily controlled with an iced spray. The strong cutting scissors are now introduced parallel to the floor of the nose, the narrow blunt blade into the narrow side just over the line of greatest convexity, while the sharp blade within the concavity is just opposite the narrow edge, so that a plane drawn through their two edges would form a right angle with the plane of the septum. This is a very important rule. By now firmly compressing the handles of the instrument the blades are closed and the sharp one cuts through into the opposite side with a distinct and audible snap. The scissors are now completely withdrawn and reintroduced without delay, but in a vertical direction, and their blades pointing upward and as near as possible at a right angle with, and preferably just opposite to, the center of the line of the first incision. The second incision is then made by firmly closing the handles, leaving two incision

which intersect each other, and the instrument is then withdrawn from the nose. The four segments resulting from the crucial incision are now forcibly pushed across the median line into the concavity by the finger introduced into the narrow side, *care being taken that they are thoroughly fractured at their base,* as on this fracturing process depends the destruction of the resiliency of the deviated portion of the septum, and consequently the success of the operation. The compressing forceps is now introduced, one blade in each nostril, and the segments of the septum compressed by closing it firmly, thereby not only straightening the septum still further, but also causing the broken segments to overlap each other in the concavity. (*b,* Fig. 9.) By this process of overriding, the second condition of success, in addition to destroying the resiliency, is given to shorten the longer line of the deviated to the shorter one of the straight septum. (Fig. 9.) Thus the geometric axiom that the straight line between two points is the shortest, to which reference was made, is carried out.

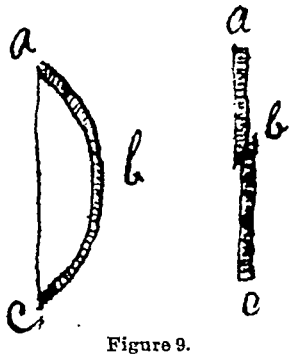

Figure 9.

By this time the hemorrhage is usually quite brisk, but is controlled to some extent by the blades of the compressing forceps. It should be understood, however, that the forceps is simply meant as a compressing forceps, and any rolling, rocking or wabbling motion should entirely be avoided, as possibly inviting serious complications. If the segments are thoroughly broken at their base by the finger, the resiliency of the cartilage is completely destroyed, and it is not necessary to seize each one of the four segments separately with the forceps and to subject them to a twisting motion, sufficient to loosen its articulation, as recommended by H. H. Butts.[6] After removal of the forceps, an iced antiseptic—or sterile—solution is sprayed in both nostrils, and a tube introduced into each side, the largest one that can be introduced into the previously stenosed side without exerting any force, and a smaller one into the other nostril, thus providing by even pressure, arrest of the hemorrhage and a support of the straightened septum. And it should here be stated that the vulcanite tubes are used exclusively as supports of the straightened septum until it has become fixed in its new position, and not to force it over to the other side. If this should become necessary the operation is not well done, and will probably be not entirely successful, and the tubes will be more or less productive of pain while they are worn.

After introduction of the tubes the operation is finished, the patient is placed in bed, ice-cold compresses are placed over his nose, and after his rallying from the anesthetic cold sprays are used every half hour. Twenty-four hours after the operation the tube from the wider side is removed and not replaced; the spray and cold applications are continued. Twenty-four hours later the tube on the other side is removed, the nostril thoroughly cleansed with sprays, and the tube, after thoroughly cleansing and sterilizing, is reintroduced. If this process is painful, cocain is applied in 4 per cent. solution, and if it should appear that the tube is difficult to introduce or cause pain, a smaller one is selected. One should always bear in mind that the tube should just be large enough to cause no discomfort, but to fit snugly. This tube must be removed and cleansed every day, the nose thoroughly sprayed or washed out with a warm sterilized solution; and the patient is usually allowed to leave the hospital on the third or fourth day. After this the patient usually learns to manipulate the removal and reinsertion of the tube himself, which becomes quite painless after one week, during which he should be daily seen by the surgeon; but it is usually sufficient after this for the surgeon to see the patient from one to three times a week, as the case may be, for the next four weeks, after which the tube may be finally withdrawn. The septum has now become sufficiently fixed in its new position not to longer need any support.

There are a few additional details which may be mentioned. While the secretions have an outlet through the hollow splints, it sometimes happens that they occasionally do accumulate in and behind the tube, and become thick and tenacious. I institute, therefore, in the early stages of the after-treatment, or add to the use of the spray that of the warm nasal douche, using any mild alkaline and antiseptic fluids, previously sterilized, under low pressure, the receptacle being held at the level of the head. I wish to emphasize that there is absolutely no danger to the middle ear from the nasal douche if properly carried out, *i. e., with warm water sterilized solution,* low pressure, not too much fluid at a time, head bent forward, mouth open, and the patient enjoined from swallowing while the fluid is in the nose. The relief given to the patients with the douche is very remarkable, and it also can be done while the tube is *in situ.* Before reinserting the tube I usually spray the nose with one of the liquid preparations of vaselin, containing menthol in 1 per cent. strength, and oil the tube with sterilized vaselin or olive-oil. Thus it is possible to render the patient quite comfortable at an early date. There is no doubt that granulation tissue will spring up in such a vascular organ as the nose, around, above and below the tube, sometimes even to some considerable extent. This must be treated in the usual manner and be removed either with the cold snare, or cauterized with the galvanocautery or any of the chemical caustics. This is the reason why the patient should present himself in regular intervals to the surgeon for the first five weeks after the operation, in order to enable him to be on the lookout for such occurrences. The position of the septum will not require any attention, as it will be permanently fixed, if the operation was properly done, and the tubular splints were well selected. That this latter is necessary stands to reason. The tubes—and this can not be repeated too often—are not to act as compressors, but as support; they have the rôle of the splints, tubular though they happen to be. The conditions are so variable that one should not expect that one splint, even in different sizes, could answer all purposes, just as little as the surgeon could do with any other splint of a given shape for all cases of fracture of a certain description. Experience will soon teach that the size of the splint must be properly selected, that it sometimes must be slightly altered in shape, that for instance the anterior upper rim must be cut off so as to make it slanting, or again that it must be shortened posteriorly, etc. Sometimes it becomes necessary to support it with small wads of cotton, etc., but all these makeshifts are needed

only in exceptional cases, and can not therefore militate against the usefulness of the splints in general. Experience, as in other things, will soon teach what to do. I wish to add that the splints as made at present can be sterilized in boiling water without changing their shape.

Regarding the portion of the septum where the free edges of the segments override each other and are liable to leave something thickening (*b*, Fig. 9), as is to be expected from a consideration of the fact that a longer curve is reduced to a shorter straight line, it can be stated that these thickenings are generally very insignificant and will, if left to themselves, eventually disappear. However, if needed, they can be readily removed later on, and this may be done by electrolysis, galvanocautery, the knife curved on the flat, the saw, the electro-trephine, etc., according to the conditions present and the preference of the operator. This applies also to spurs or posterior obstructions that may exist in addition to the deviation, and may require special consideration. All these additional operations should be done some time after the septum has been permanently fixed in its new position. There are but a few conditions which require preliminary operations. One of them is the luxation of the triangular cartilage from the columna. These are the only cases in which Emil Mayer[7] operates in advance of the straightening of the septum by a submucous resection of the projecting piece of cartilage. There are, however, in my opinion, two more conditions which require preliminary operation. The first is the presence of nasal polypi in the concavity. If they exist in the other side also, they are probably behind the deviation and could not be reached until the stenosis is overcome. In one of my cases (No. 13) the concavity was packed with so-called mucous polypi, and it is self-evident that their removal had to precede the correction of the deformity of the septum. There is, however, another condition which was described by D. Bryson Delavan[8] as a comparatively frequent occurrence. He found in eleven out of eighteen cases of deviation of the septum, a condition of hypertrophy of the middle turbinate bone in the otherwise spacious concavity, which was sufficiently large to interfere with the patency of the wider nasal fossa after the septum has been brought back to a vertical plane; or it may even interfere with the surgeon's efforts to push the septum back into the vertical plane. In such cases Roberts[9] also demands the preliminary removal, either partial or total, of the turbinated bone, and from one experience which I had (Case 17), in which I do not do it, I am convinced it is the proper thing to do. This is an entirely different condition from that, which Mayer mentions, when he says,[10] the hypertrophied "turbinated became so, because the volume of air-pressure was diminished in the (concave) cavity, and it was remarkable how small it became on the correction of the deformity." There certainly can not be any doubt about this, as it apparently refers to hypertrophy of the turbinate bodies; but the anomaly aforementioned is a hypertrophy or bullous enlargement of the turbinated bone or bones (Fig. 10) which will not yield or undergo a retrograde change after replacement of the septum, and which should receive attention before the operation on the septum, lest it produce a condition in the concavity which existed before the operation in the stenosed side. (Fig. 10.) It is, however, but just to mention that it is, at least in my experience, by no means a common occurrence.

As to the results obtained by this operation, sufficient time has elapsed since it was first performed, in 1882, by Asch, and the number of cases operated on is large enough to arrive at definite conclusions. In 1898 Mayer was able to refer to 200 operations, which had been done from 1888 to 1897, of which 78 cases had been operated on at the Manhattan Eye and Ear Hospital, and 122 at the New York Eye and Ear Infirmary. Of the latter the operations were distributed among the following operators: Asch, 39 operations; Mayer, 35; Hitchcock, 18; Adams, 16; Waterman, 3; Simpson, 3; McKernon, 2; Gage, 2; Whiting, Concannon, Leonard, and Bardes, each 1. All of these cases, of which complete hospital records were kept, are recorded as cured. These 200 mentioned do not include any operated on in private practice. Since then a good many additional operations have been performed at the same institutions with equally good results.[7] Butts[11] mentions only three failures in 60 operations done at the Manhattan Eye and Ear Hospital, averaging less than one each for each member of the hospital staff who had tried the operation. Two of these failures were the result of not thoroughly carrying out the technic in their initial trials; the third by being compelled to abandon the after-treatment on account of an acute otitis media that manifested itself a few days after the operation, done in an undersized, poorly nourished Italian, 7 years of age. One year later, the boy having meanwhile been built up, the operation was repeated with complete success. Butts considers the operations as giving good and permanent results.

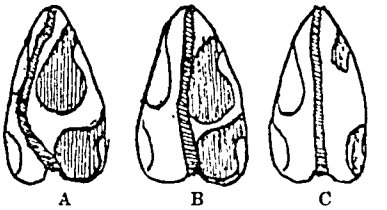

FIG. 10.—Diagrams showing deviation of septum with hypertrophy of middle turbinated bone, before and after operations: a, middle and inferior turbinated enlarged in the concavity; b, bad replacement, causing stenosis; c, correct replacement, after removal of turbinates. After Beaman Douglass.

My own personal experience is limited to 27 operations, done from 1892 to 1899. With the exception of one partial failure during my early trials, when I had not yet fully mastered the technic from the scanty literature then extant, having never been present at any of these operations, all the others have been successful, and the cure obtained has remained so. There are but a few cases operated on less than a year ago, the shortest interval being, in one, about seven months. In all of these stenosis has been cured, the septum has remained in the median line, reflex symptoms, where they existed —in 2 cases—have been permanently relieved, and the correction of external deformity of the nose has been permanent. I wish to emphasize the fact that this operation has been, in my hands, signally successful for the relief of scoliosis of the nose, which in many instances is to the patient more distressing than the stenosis.

In three of my cases this deformity was very marked. The first case was that of a young student of theology, J. H., aged 18 years, who felt the disfiguration very keenly, inasmuch as it would be a great detriment to him in his appearance in the pulpit. The deviation was on the left side, obstructing the left nasal fossa entirely, and was of the most pronounced angular kind. The external nose was much distorted, the tip being turned toward the right and slightly upward. He was operated on Nov. 14, 1892, with the result of having the nasal stenosis relieved, and the deformity of the nose changed so much for the better that when I saw him several years

later, I was for a moment in doubt toward which side the nose had been bent.

Of my second patient, a girl 19 years of age, I have unfortunately lost my records. The cosmetic result was very good.

As I had the picture taken before operation only in my third case, I reproduce it here and refer to her a little more *in extenso*. Miss A. S., aged 16, came to the dispensary of my friend, Dr. S. E. Allen, principally for the purpose of having her nose straightened, as she said, and was referred by him to my hospital service for operation. On Dec. 13, 1898, she was operated on, Drs. Allen, Harris, Hines and the internes being present. As is my invariable custom in nasal operations, which are to be performed under an anesthetic, I applied a 10 per cent. solution of cocain, by means of a cotton carrier, to both sides of the septum, which was strongly deflected toward the right, the main convexity running from above backward to below forward. The whole dorsum nasi described a curve toward the left, having a kind of twist where the change from the sagittal line toward the left took place, with the tip of the nose pointing decidedly toward the left. (Fig. 11.) Chloroform anesthesia was used (Dr. Beson). The operation was done in the usual manner, as described above. After some adhesions had been broken up, and the resiliency of the septum thoroughly destroyed, it was found that after straightening the septum with the compressing forceps the tip of the nose could be readily brought into the median line. I then inserted the tubular splints, being very careful to select them of such size and shape as would not interfere with the cosmetic result, and bent thereupon the tip of the nose so much toward the right that the deformity was somewhat overcorrected, and held it in place by two long adhesive plaster strips of 1 inch in width, which were fastened one below and one in front of the left ear and extended across the face, exerting some considerable pressure on the tip of the nose, which had been previously protected by some absorbent cotton. These strips were left *in situ* for about one week, while the treatment of the interior of the nose was carried out as described. There were no complications except that later on some exuberant granulations within the nose required considerable attention. The result was as perfect as could be desired (Fig. 12, taken six months after operation), and, as she wrote to me but a few days ago, according to the assertions of her friends, she is not to be recognized as the same girl she was before the operation.

Fig. 11.—Taken before the operation.

Fig. 12.—Taken after the operation.

What now are the contraindications, disadvantages and dangers of this operation? I do not know of any other than those that would apply to any bloody operation in the nose done under an anesthetic. As to disadvantages and dangers, I could not mention any that are specific for this operation. While it is true that the hemorrhage is at one time, immediately after the crucial incision has been made, decidedly brisk, it is not more so than in many other nasal operations, and it is readily controlled when the tubular splints are introduced. As to the danger of blood entering the larynx it must be remembered that the operation should be performed on the head lowered over the edge of the table; one might say the same regarding this danger in the operation for adenoid vegetations. Besides, the fact must not be lost sight of, inasmuch as the chloroform mask—or the ether cone—is removed at the beginning of the operation, that at this time the patient is generally not any more deeply under the influence of the anesthetic so as to abolish all reflexes, and that he is more than likely to swallow any blood that would happen to flow down into the pharynx. As to severe secondary hemorrhage, I have never seen nor heard of it. It is, however, possible that the application to the mucosa of the septum of the aqueous extract of the suprarenal capsule may greatly

diminish the hemorrhage during the operation, as it has been reported to have done in other nasal operations. I have not had, so far, any opportunity to try it.

Stucky[12] speaks of "injury to inferior and middle turbinals" as a result of the Asch operation. From his description it does not appear whether it was done by the scissors, or by the tubes, in fact not whether it happened in the stenosed or in the wide side. But it must be remembered that in the stenosed side the turbinals are so small that they offer hardly any surface for being injured, and the blade introduced into the stenosed side is blunt. As to the wide side I can not see how the scissors, with some care, should injure the turbinals; but if these should be of an enormous size, they should be reduced, as stated above, by a preliminary operation. On the other hand, it is not easy to understand how the tubular splints could fracture the turbinals after the reposition of the septum, as all force—this is essential and has been reiterated again and again—should be strictly avoided during the introduction. I must therefore conclude that the injury which Dr. Stucky saw in some patients who had been operated on by some other surgeon, must have been due to other causes, or were possibly the handiwork of some one who was in his first attempts at doing this work, and was possibly not sufficiently familiar with the technic and after-treatment.

Robert Levy[13] reports a case in which, thirteen days after this operation had been performed, death occurred, in a rather poorly nourished individual who had been a sufferer from rheumatism and cardiac distress, and who had been addicted to the use of morphin. The cause of death was general septicemia, thrombus of the posterior cerebral artery, and cerebral softening. The thrombus was evidently due to syphilitic arteritis. This is plainly one of those accidents which are just as unfortunate as they are unavoidable, and which might have as well occurred after any other operation on the septum, or for that matter on the turbinals also.

It must also be stated that, as a rule, no rise of temperature occurs after the operation; that the tubular splints, if kept clean, allow the patient to breathe through them, in contradistinction to the solid splints. However, I think Richardson[14] is right when he says that in general there is some annoyance present as long as the tube or splint is worn. This applies naturally to any kind of splint or tube, as they are foreign bodies and must of necessity annoy the patient to some extent. Says he: "Nor can the fact be denied that such a body as a splint of hard rubber placed within the nasal cavity will produce temperature and inflammatory reaction. About the edges of such a foreign body, especially when placed in such a vascular organ as the nasal cavity, we are apt to, and do have exuberant growth of granulation tissue in proportion to the length of time the foreign body is worn." This would apply to all kinds of splints, and not to these alone. Yet, the after-treatment is, in reality, not painful after the first few days, during which one can readily overcome the pain by the use of some cocain; and the patient can really be made comfortable if a little care and judgment be exercised in the size and shape of the tubes. A little mechanical skill will often adjust or shape a tube so that it will be absolutely non-troublesome, whereas it might otherwise annoy the wearer very much. In fact the patients very early learn to take the tubes out, clean them and reinsert them. In order to obviate these frequent changes and save the patient annoyance, Richardson proposes not to remove the primary splint nor to change it, until its final removal, which could be done about the tenth day after the operation. He reports that he has done this successfully, finding that the septum is sufficiently well fixed in its new position after ten days, so as not to need support any longer. This proposition certainly deserves some consideration.

As to the anesthetic used, I wish to say that in my 27 operations I have done it twice with cocain applications alone, once under bromid of ethyl anesthesia, and 24 times under chloroform. This proportion shows that I do not think either cocain or bromid of ethyl the proper anesthetic to use for this operation. Whether one should use ether or chloroform is a matter of personal preference, as in other operations.

In conclusion, I am of the opinion that Asch has well merited the thanks of his confrères in devising and perfecting this operation. It has been said that the principle of cutting through the cartilage in order to overcome the resiliency was not new. What does this matter? The late Joseph O'Dwyer was the one who introduced his perfected method of intubation, and to him all the well-earned credit was given, although Bouchut had many years before made use of the same principle of introducing stationary tubes into the larynx. For that matter, the principle of crucial incisions was described by Réthi[15] of Vienna, in the same year, 1890, when Asch announced his method. But what a difference between the two procedures? Réthi first makes crucial incisions into the mucous membrane of the concave side, with a special lancet-shaped knife, then pushes the mucous membrane back with a raspatory; then with a peculiarly-constructed chisel, the septum is cut into four segments; after this the stenosed side is once more cocainized, two blunt retractors are introduced into the stenosed nostril and after measuring the distance of the crucial incision from the tip of the nose, a cut with a narrow tenotomy knife introduced into the narrow side is made in the prolongation of the primary incision, penetrating into the concave side. After this the septum is thoroughly weakened, and is pushed with a spatula into the median line. The septum is kept in its new position by oval vulcanized rubber tubes, which have been wrapped in iodoform or sublimate gauze, and which are placed in both nasal fossæ. Réthi himself mentions his operation as "rather tedious"[16] while the Asch operation can be readily done by any operator who has the least manipulative skill and some experience, in five minutes.

Of the greatest helps are the special instruments devised for this operation. It is true that one can make the crucial incisions with a bistoury, without needing any especially constructed pair of scissors. So it is possible to perform tonsillotomy with a scalpel, dispensing with the use of a tonsillotome. The compressing forceps is, moreover, a very handy instrument that should recommend itself to every surgeon. It differs very materially from the old Adams forceps, as any one can see, who will compare them, and has the great advantage of permitting its use in the posterior portion of the nose without endangering the columna. It served me to an excellent purpose in the case of a lad, about 14 years of age, who was brought to my service at the Cincinnati Hospital with a fractured septum, the result of a baseball accident. The nose was considerably flattened, and the cartilaginous septum was almost reduced to a mass of unstable and crushed fragments. In narcosis, I introduced the compressing forceps, brought, as well as I possibly could by slow and even pressure, the fragments into juxtaposition, also lifted the dorsum

nasi by this procedure, and kept them there by two snugly fitting Mayer tubes. In this instance I did, however, not remove the tubes until the sixth day, as I feared the badly crushed septum might not have enough stability to remain in position without support. After the tenth day the boy could be discharged with a moderately straight septum and a satisfactory cosmetic result. This case is not included in the number of operations done for deviation of the cartilaginous septum.

From all these considerations, from the experience of others, who have done this operation many times with universally good results, and from my own personal experience, extending over a period of over seven years. I am bound to consider this operation one of the best ever devised for deflection of the cartilaginous septum, no longer a bugbear to the rhinologist. It is simple, effective, and can be done in a short time, and the results are uniformly good and permanent, as has been sufficiently proved by the large number of cases operated on by various operators, and the time that has elapsed since the operations were performed. I can well imagine that cases may occur in which this operation is not applicable; but I have not as yet seen them. Nor do I wish to be understood as denying that other operations devised for the same purpose may have great merit, nor be productive of good results. But inasmuch as the Asch operation has been so very satisfactory in all my cases, I have never felt the necessity nor even the desire to try any other method. And I am absolutely convinced that among the many operative procedures devised by American rhinologists, this method will easily rank among those which mark a distinct progress in our specialty.

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LAMINECTOMY.*

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The following cases of laminectomy, eighteen operations on seventeen patients are reported in the hope that they may furnish some encouragement for interference in one of the most interesting if discouraging fields for surgical operation, and because the writer is convinced that by a simplification of the technique the operation risk is much lessened, and that in the midst of numerous failures, so far as the power of giving life is concerned, occasionally a brilliant success is possible, while in certain other conditions, relief of suffering and prolongation of life is sure to follow. Furthermore, instead of the field for operation becoming narrower, there is every reason to believe that new and untried conditions may be amenable to surgical interference.

For most complete and invaluable neurologic data, the writer is indebted, in twelve of the cases, to Dr. William N. Bullard, whose interest and judgment have ever been most helpful and encouraging.

To begin with the most discouraging class, I will report three acute traumatic cases in which the lesion involved the cervical region.

CASE 1.—Edward A. W., 35 years old, after a fall down stairs on October 31, was brought to the Boston City Hospital; Dr. G. W. Gay's service. He was conscious on admission, with nearly total paralysis of the upper extremities, and total paraplegia, paralysis of the bladder sphincter, knee-jerks active and equal, sensation much diminished everywhere below the level of the third ribs and diminished below the clavicles. There was hyperesthesia of the neck, with apparent diminished sensation over both sides of the face, some tenderness over the third, fourth and fifth dorsal spines, marked tenderness from the seventh cervical upward, and anesthesia of both upper extremities, involving the whole of the right deltoid. Respiration was abdominal, with a good pulse.

At operation, six hours after injury, the seventh, sixth, fifth, and probably part of the fourth cervical laminæ were removed. There was no fracture, no extra or intradural hemorrhage. The dura was very tense and darker in color than normal. On incision, a clear serum spurted under much pressure. No evidence existed of any pressure on the cord, so far as could be told by exploring with a probe. Pulsation, which was absent before evacuation of the fluid, returned after loss of a considerable quantity. The cord felt normal to the touch. The dura was not closed. The external wound was closed with deep silkworm gut sutures, with rubber tissue drain.

The patient, at the close of operation, was in as good condition as at the start. On the next day he was doing well, with no change in the anesthesia, and on the second day he was better; could move his arms voluntarily, and there was a doubtful gain in sensation. Toward evening the temperature rose suddenly, followed by delirium and death.

Autopsy showed that the cord was soft at about the level of the second vertebra, about one inch above the opening made at operation. There was no sign of fracture nor dislocation.

CASE 2—Jesse L. P., 57 years old, also entered on Dr. Gay's service. He had been caught in a shafting and carried around under a large fly-wheel. Probably his back was struck by the edge of the wheel, which at the same time forced him down underneath itself, where he lay with his feet up and curved around the wheel for some little time. At entrance he was in too much shock for operation. Stimulation was resorted to.

Operation was performed ten hours after injury, under ether. The patient had rallied considerably, and there was anesthesia below the second intercostal space. Incision was made over the lower cervical spine. The muscles about the sixth spinous process, especially on the left, were pulpified, and the process itself loose and pushed to the right. The seventh, sixth and fifth laminae were removed. There was apparently no pressure. The dura appeared normal. A small opening was

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made in the dura, giving vent to clear fluid, but no blood. The cord at the opening showed no evidence of trouble. Deep silkworm gut sutures were used, with iodoform wick drainage.

The patient stood the operation, thirty minutes, well, passed a good night, was talking to the other patients early in the morning, and remarked that he thought his head should be higher, when suddenly his face changed color, he became unconscious, and immediately died.

At autopsy, on removal of the cord there was exposed a sharp knuckle of bone pushing into the canal and corresponding to the upper portion of the body of the first dorsal vertebra. The knuckle was quite sharp, but not very prominent. A few small splinters of bare bone could be felt along here, but for the most part it was fairly smooth and covered with soft tissue. On removing this portion of the spine, this knuckle was seen to represent the body of the first dorsal vertebra, the cartilage between this and the seventh cervical having been crushed and torn, the ligamentous attachments uniting the bones torn apart, and the body of the bone forced back, producing an angle in the spinal canal. The portions of the cord over the bony knuckle were found softened, discolored, apparently with much hemorrhage into the tissues. On section of the cord above and below this point, there was evident hemorrhage into the posterior horns for about 2 cm. in either direction.

CASE 3.—This case is inserted here because it illustrates this type of injury, and although no lamina was removed, the operation carried out was essentially as severe as that of a typical laminectomy.

Edward F., 40 years old, entered Dr. Cheever's service, having been struck on the back of the neck by a bale of hay. He was first taken to the Emergency Hospital, and given ether with the idea of reducing a dislocation of the neck; failing in this, he was brought to the City Hospital.

There was paralysis and loss of sensation of the lower extremities and of the trunk, up to the second intercostal space, limited motion and sensation of the arms, limited rotation of the head, and the patellar reflexes were absent. The pupils reacted slowly to light, and respiration was abdominal. Apparent dislocation of the seventh cervical vertebra was found, with possible fracture.

The operation was under ether, with the incision over the lower cervical processes. The sixth cervical vertebra was found to be dislocated laterally. The finger could be passed over the process of the seventh into the canal. No injury to the dura was found. The articular process of the seventh vertebra had evidently been torn as well. By traction to the left and rotation to the right, the dislocation could be reduced, but on removing traction, dislocation quickly recurred. The dislocation was then reduced, the wound closed, and while steady traction was maintained the head was put up in a dressing of plaster of Paris, carried well down over the chest and shoulders. Traction straps were also placed on either side, and as soon as the plaster had hardened, the patient was put to bed with a weight of eleven pounds.

As soon as the dislocation was reduced the respiration became costal. There was a good pulse, apparently no shock from the operation, and good recovery from the ether. On the following day the patient was quite restless and noisy; temperature 103.5, and during the day he grew noisier. On the second day, after a fairly good night, respiration became noisy, with much secretion in the throat and difficult expectoration. The pulse was poor, and he steadily lost strength and died during the afternoon. No autopsy was allowed.

With the cervical cases it may be well to add one occurring in the upper dorsal region, because the general character and severity of the latter conform to those of the former class.

CASE 4.—Michael G., 33 years old, was struck by an electric car and thrown into a ditch. At the Hospital, on Dr. M. F. Gavin's service, he was seen by Dr. P. C. Knapp, who noted anesthesia below the nipples, complete paraplegia, cremasteric reflexes present, abdominal and epigastric absent, plantar doubtful, and knee-jerks absent. There was diminished sensation of the fifth and ulnar side of the fourth finger, and a little of the ulnar aspect of the forearm. The mind was clear, pulse slow, regular and full.

The operation, four or five hours after the injury, was under ether, and the incision over the upper dorsal region. The first, second, third and fourth dorsal spines were removed. On opening the uninjured dura clear serum escaped. The cord was not depressed, and there was no evidence of anterior bony pressure. The wound was closed with deep silkworm gut sutures, with a rubber tissue drain. The patient stood the operation well, the pulse being 70 at the close.

On the following day he had muscular twitchings of the arms and face, and his breathing was diaphragmatic and heavy. The temperature, which was 105 during the night, rose to 106.3, with vomiting and great thirst. He grew steadily worse and died twenty-four hours after operation. There was no autopsy.

In traumatic lesions of the upper cord as shown in three of the four cases, high temperature comes on rapidly, but we are strongly inclined to the belief, after watching similar cases where operation has been withheld, that the fatal issue is delayed for one or two days, and that there is some amelioration of symptoms, apparently due to the relief of intradural pressure.

Of the advisability of operating for trauma below the mid-dorsal region, there can be no doubt. Too many recoveries have been reported to warrant an expectant policy in dealing with a large number of these patients. My own cases, three in all, were not cured by operation; at the same time it gave them the best chance for recovery and, so far as seen, they were not at all disturbed by the interference.

CASE 5.—This patient, 18 years old, was on Dr. Gavin's service, and had fallen a distance of forty or fifty feet. At entrance he was stupid, with paraplegia and paralysis of the sphincter of the bladder with retention. He was put to bed apparently asleep, with his eyes closed, but when roused he answered questions, quickly dropping into a semistupid condition again. The pupils were normal, respiration not diaphragmatic, pulse weak and rapid. There was total paralysis of the lower extremities, with diminished sensation throughout. The knee-jerks were absent. There was anesthesia from about the fourth rib in front and the fifth dorsal spine posteriorly. At entrance he was in too much shock for operation, which was delayed until the next morning.

At the operation, under ether, the fourth and fifth dorsal spines were removed. The fourth lamina was found driven forward, pressing on the cord and held in place by being locked under the fifth lamina, and on removal of the fourth, all pressure of the cord, so far as could be

told, was relieved. The dura was normal and not opened. The wound was closed with a temporary drain.

The patient was put to bed in the prone position. His condition was no worse at the end of operation than at the beginning. On the following day his temperature, which had been 104.5, dropped to 101. The pulse was 100, and fairly good in volume and strength. He made no attempt to move the left arm, but used the right freely. There was slight left facial paralysis. The mind was no clearer. On being catheterized while asleep he awoke and complained of pain during the passage of the instrument. There was incontinence of feces. During the night he became delirious. There were no signs of returning function of the cord, and the left face and arm were more paralyzed than before. The delirium increased, the pulse dropped to 90, and in a few hours he became weaker and died.

There was probably some cerebral injury that developed no definite signs for a day or so, and contributed more or less to the cause of death.

CASE 6.—Charles A. J., 30 years old, fell about seventeen feet, and was admitted to Dr. Gavin's service. He had anesthesia from the seventh intercostal space in front, with knee-jerks and plantar reflexes absent, and paralysis of the bladder.

Operation, about three hours after injury, was under ether. The spinous process of the seventh dorsal was loose and displaced. There was fracture also through the transverse process and probably entirely through the body of the seventh, as anteriorly there was some sharp projection pressing against the cord. There were also lateral projections, all of which were gnawed off with rongeur forceps. The upper portion of the lamina of the eighth, and the lower portion of the sixth were also gnawed off and smoothed so that the cord was free from pressure. The cord was probably crushed, but there was no apparent laceration of the dura, which was not opened. The wound was closed, with a gauze wick drain, and the patient placed on a Bradford frame.

June 9, three days after operation, there was sensation of a full bladder for the first time since the accident. The wound was clean, and sensation fairly good to the ninth interspace in the axillary line. June 13, the urine was turbid—probably cystitis—and there was a chill; temperature 103.4. By June 16 the wound had healed by first intention, with no apparent gain in sensation.

June 20, incontinence of feces was noted. By June 24 the cystitis had largely disappeared, the urine was clear, but no gain in sensation. A sacral bed-sore was present. On June 30 there was an up and down temperature, and he was still catheterized. July 9 he was losing ground. By July 19 there was a steady gain in sensation, and he could feel a touch anywhere above the umbilicus. There was no gain in motion, but general health was good. By July 30 the general condition was fair, and the Bradford frame was removed. August 9, there were two new bed-sores over the scapula. He had now been out in the yard in a chair for two days. He complained of pain in the right knee, but could increase or stop his flow of urine. On August 23 the bed-sores were very large, and there was involuntary urine and feces. By September 7 the urine was clear, but no change in his general condition. By October 4 he was emaciated, with no gain in motion or sensation. There was flexion at the knees, but no control over bladder or rectum. October 25 showed no improvement. He was thin and wasted and had a dry cough. November 1 found him gradually failing, pulse rising, the bed-sores painful in spite of daily dressing and an air mattress. Diarrhea was present. He continued to fail and died November 7.

Autopsy showed that opposite the body of the seventh and eighth dorsal vertebræ the cord was sharply compressed by a knuckle from the posterior portion of the bodies. On opening the dura, the cord was found completely divided, the upper portion being separated from the lower by a space of 4 cm. The dura in this region was firmly adherent to itself and portions of the cord, ending blindly at either extremity in a mass of fibrous tissue. On dissection, the body of the eighth dorsal vertebra was seen to have been forcibly driven backward and crushed between the seventh and ninth dorsal. The lower portion of the ninth exhibited an old line of fracture with new formation of bone in and about middle of body. There was no evidence of the articular cartilage between the eighth and ninth dorsal vertebræ. The ninth dorsal projected into the spinal canal at a sharp angle of 45 degrees. Above the angle made by the displaced ninth dorsal there was a new growth of bone along the front of the spinal canal, making the angle less prominent.

CASE 7.—Annie C., 35 years old, was seen with Dr. B. W. Hill. She fell from a third-story window, probably striking with the back across a piazza railing. Immediate paralysis and anesthesia corresponding with the nerves at the level of the twelfth dorsal vertebra ensued. There was moderate abdominal distension.

Operation, under ether, showed the spine of the eleventh and possibly the twelfth broken off and carried to the right. The spines and laminæ were not only broken but crushed into fragments. The laminæ of the twelfth dorsal and first lumbar were removed, giving free exposure of the cord. This was flattened over a transverse ridge, pressing it in front, and was evidently crushed. The destruction was so complete that further interference seemed unwise, so the wound was closed with a temporary drain. The patient stood the operation well, the pulse and general condition being as good at the close as at the beginning. At the end of eight months the patient was still alive, but without any improvement.

In two of these cases it would have been justifiable, where, at the time of operation the local damage to the cord appeared to be limited to the space between the exit of two contiguous nerve trunks, to free the nerve above and below the injury on each side, within the dura, and as far from the cord as possible, and then suture the upper to the lower stump, in the hope, theoretic of course, of re-establishing the nerve current between the upper and lower fragment of the cord. What the practical result would be I am unable to state, as I have not recently had a suitable patient on whom to try the suggestion.

When we come to chronic traumatic lesions of the cord, the field is far more encouraging and we should not be deterred from operating at any level so long as there is the faintest hope of relief.

CASE 8.—Samuel S., 55 years old, entered Dr. Gavin's service about a year after he had fallen from the top of a mail coach, landing on his head and right shoulder. Unconscious for a short while, for three days he vaguely realized what was going on around him, and then fully regained his senses. He could incline his head fairly well to the right shoulder, but motion to the left was limited. Numbness of the right shoulder and occipital

region was evident, and paralysis of the upper right extremity. He could not raise nor flex his right arm. His head was held inclined to the right and slightly forward. There was anesthesia from behind the right ear to the occiput, right side of neck, and posteriorly down to the costal spine. There was diminished sensation over two-thirds of the inner surface of the right arm, no motion at the shoulder, except from the action of the trapezius, and no flexion of the forearm.

At the operation under ether, incision was made from the occipital protuberance to the lower cervical spine. The second lamina was cleared, and on the right side the lamina was found overlapping the third, and very thin: that is, thinner than blotting paper, and easily cut with scissors. On the left side, the lamina, which appeared normal, was also removed, exposing the dura. Exploration vertically and laterally failed to show anything abnormal. The dura was not opened. Under ether, after removal of the lamina, the head could be rotated in both directions normally. The wound was closed with a temporary drain.

The patient stood the operation well, with apparently very little shock. No improvement followed for several weeks, but after that there was steady gain, and in a few months the motions of the right upper extremity were very nearly normal, the motions of the head having remained normal.

CASE 9.—Michael S., 48 years old, was struck one month before entering the hospital, by a derrick rope and knocked down, his back striking against some rocks. Unconscious for a few minutes, he was able to get up and walk. He had pain in his back but kept at work for a week until the pain increased and became so severe that he had to give up work about two weeks before entrance. Then he went to bed on account of the pain. There was constipation and difficulty in passing the urine, weakness in the legs—then inability to walk—with coldness and numbness of the lower extremities.

He entered the City Hospital, on the medical side, on July 5, but his symptoms growing worse, he was transferred to Dr. Gavin's service in the course of a few days, when the following symptoms were noted: total paraplegia of the lower extremities; sensation not absent, but pain felt up to the nipples and mid-scapular region; no muscular atrophy; knee-jerks slight, but alike; cremasteric reflexes present.

At the operation, under ether, the incision was over the upper dorsal spine, and the fourth and fifth laminæ were removed. There was no extradural hemorrhage. The dura was tense but pulsating, and less pearly-white than usual. On being opened, clear fluid spurted out with force, and probably several ounces escaped. In the dura nothing abnormal was seen, except, apparently, that the dorsal vein was more swollen than usual. The dura was stitched and the wound closed.

The patient stood the operation fairly well. He was afterward stimulated strongly, and seemed to respond well until the same evening, when he grew rapidly weaker and died. No autopsy was allowed.

This case, though classed here, really belongs in a group by itself, because although the injury preceded the operation by several weeks, the symptoms inducing interference were acute, intense, and not of the type that leads one to believe that a chronic process was going on. An autopsy not being allowed, the case is of necessity reported in this group. Clinically it appeared to be one of acute myelitis of one sort or another, and had operation been done at the outset there is a possibility that the relief would have been more marked if not necessarily permanent.

CASE 10.—George H. F., 39 years old, was injured five months before entrance to Dr. Gay's service, by a falling wall. He was seen by Dr. Morton Prince, who noted complete loss of voluntary motion in both lower extremities. There was complete anesthesia below a plane passing through the body about one inch below the umbilicus. The lower extremities were flexed at the knees, but could be extended without much force. Almost immediately, however, they would return to the position of flexion. The legs were almost constantly in athetoid motion. A bed-sore as large as the palm was seen over each trochanter. There was marked bowing of the spine in the lower dorsal region, no marked atrophy of the limbs, but anesthesia below the eleventh dorsal nerve.

Operation was done at the urgent request of the patient, under ether, and the seventh, eighth and ninth dorsal laminæ removed. On opening the canal, the cord appeared to be healthy in the lower part of the incision, but on thoroughly exposing the canal, the bony substance at the base of the laminæ on the left side was found thickened and pressing on the cord, both on the left side and dorsally. The cellular tissue between the dura and laminæ was adherent to the dura, and in the upper two-thirds the latter was roughened, thickened and red, except in one place where the pressure was evidently more marked dorsally. Here there was apparent thinning and slight constriction of the dura. The canal was slightly bent, with convexity backward, but without evidence of anterior pressure. The dura was not opened. Above the region exposed, the cord was apparently normal. The wound was closed with deep silk-worm gut sutures.

The patient stood the operation up to the last ten minutes, when strychnia was given for a rapid, weak pulse. The time of the operation was thirty minutes. In three days spasmodic contractions of the lower extremities ceased, and the morphin was discontinued. The wound healed by primary union and the patient became more comfortable, but at the end of two weeks the temperature began to rise, the bed-sores failed to heal and the patient gradually failed, and died about two months after operation.

CASE 11.—Julia C., 25 years old, while delirious during an attack of pneumonia, jumped out of a window at her home, breaking her back. She was brought to the City Hospital and admitted to the medical side with, in addition to the other troubles, an abscess over the sacrum. After entrance she was in a low state, with a high temperature, marked anesthesia and tympanitic abdomen, a rapid, poor pulse, normal reflexes and stupid mental condition.

Six weeks later she was transferred to the surgical side, service of Dr. Gavin, in a typhoidal condition. There was total paraplegia of the lower extremities, incontinence of urine, and extreme pain and tenderness over the lower extremities. Sensation was present everywhere, knee-jerks absent, the bowels not affected, but prominence over the lower dorsal and upper lumbar region. There was a bed-sore over the sacrum, but not severe enough to account for the temperature. The general condition was so bad that operation, even as a last resort seemed hardly justifiable.

On June 11, operation was performed under ether, and the slough over the knuckle dissected off. The first lumbar vertebra was found rotated so that the right arti-

icular process was prominent posteriorly. The laminæ of the first and second were removed. Of the first, there was probably a fracture through the pedicle on the left side. On opening the canal a sharp knuckle or angle, probably of the upper vertebra, was found projecting posteriorly against anterior portion of the cord, below this, on the left, was a projection from the lateral wall and extending to the median line of the canal, compressing the root of the cauda to about half its diameter. Opposite this lateral projection was a rent in the dura, with a hernia of the lateral portion of the cauda. The lateral bony spur was removed, but the anterior was not disturbed, as there was no compression of the cord after removal of the laminæ. Exploration above and below showed no further constriction. The wound was closed with iodoform wicks.

The patient stood the operation well, considering her condition, strychnia being used. By June 13 the condition following operation was much the same as before. The patient was delirious all the time, and still kept prone on a Bradford frame. On June 16 she was taken from her prone position and placed on her back. No return of sensation or motion was evident. On June 20 there was less incontinence of feces and urine. She seemed brighter, and her mental condition improving, with temperature about normal. On July 19, there was not much gain in sensation or motion. The general health was good, and the bed-sores healing. By July 30 she had not improved much, but could wiggle her toes some. By August 9 there was considerable motion of the toes, and by August 23 great improvement; she sat up in a chair every day, and could move both legs freely. The bed-sores were healing, but sensation in the legs was not yet normal. By August 27 she had control over the sphincters of bladder and rectum. September 18 showed no change, but she sat up as usual. October 4, the general condition was good, and by October 25, she had improved slowly in motion and sensation, but could not yet stand; had massage regularly, with benefit. November 1, improvement in sensation and motion continued, and on November 8, the left leg was stronger than the right, the bed-sore closing fast. By November 16, she could go about the ward, pushing a chair, and sit up all day. By December 6 she could walk without help of any kind, and by December 12 the bed-sore had entirely healed with other gradual improvement, and general condition excellent. December 15 she was discharged to the Convalescent Home, where she remained until the middle of February, in excellent health, and later she went to work and has ever since been able to earn her living at housework.

Clinically, the outlook in this case was most discouraging. Operation was urged only on the general principle that it gave the only hope, though a very poor one at that. To one who watched the progress of the patient there was no doubt that the benefit followed directly on the interference. To be sure the lesion involved the beginning of the cauda, but before exposing the cord that could not be told with any degree of certainty.

With advanced methods in forcible straightening of the spine in caries, relief of pressure for paralysis will be sought by laminectomy less and less frequently. However, it seems best to report the two following cases, in order to complete the series.

CASE 12.—Joseph R. W., colored, 22 years old, entered Dr. Cushing's service with cervical caries. There was almost total paralysis of the left upper extremity, total paralysis of the right upper extremity and both lower extremities, extreme atrophy of the lower limbs and chest, sensation diminished in front below the lower jaw, and decidedly diminished two fingers' breadth below the jaw. The limit of sensation in the back of the neck ran as high as the superior curved line of the occipital bone. There was clonus in both ankles.

The operation was under ether, and the incision from the occipital protuberance to the fifth cervical spine. The spinous process of the second vertebra was loose and apparently dislodged backward. The lamina of the second was removed piece-meal, with rongeurs, the anterior portion of the right lamina apparently being carious and buried anteriorly with granulations. The third and fourth laminæ were also removed. The dura appeared opaque and slightly thickened. The peridural tissues were adherent to the dura, and slightly more injected than normal. The cord seemed smaller than normal anteriorly, and on the right side, whence the carious laminæ had come, there was a small space that allowed entrance to the finger, but no rough bone could be found. The patient did not stand operation well and strychnia was given in full doses, so that it seemed best not to open the dura and prolong the operation. The wound was closed with silkworm gut, with a temporary drain.

The patient recovered well, the wound healed and he was apparently doing well with a slight gain in motion in his legs, when about a month after operation he suddenly died without known cause. No autopsy was allowed.

CASE 13.—John D., 18 years old, had suffered from dorsal caries for five years. During that time he had had complete paralysis of both lower extremities, from which he recovered and was able to go around until about two months before entrance to Dr. Gavin's service. There was a knuckle in the dorsal region, with marked lateral curvature to the right, and marked exaggeration of the reflexes in the lower extremities, with pronounced ankle-clonus. He walked with difficulty, with crutches. The sensation in the legs was much diminished. Bed-sores were present.

Operation, under ether, revealed that the laminæ on the left side were not fused, but on the right side so fused that rongeur forceps were necessary to open the canal. The sixth and seventh laminæ were removed. Below the projection of the body the dura was normal; above the projection, for about an inch, the dura was covered with inflammatory membrane which was easily dissected away. Laterally, on the right side there was a mass of granulations pressing on the dura, which was curetted off. Anteriorly, and on the right side, there were sinuses leading to small cavities in the bodies, which were full of cheesy material, pus and granulation tissue. These cavities were also curetted out. The dura was opened in the median line, but the cord appeared normal. The cavities were packed lightly with iodoform wicks and a dressing applied along the open groove over the dura. The wound was closed, allowing for drainage, and the patient placed prone on a Bradford frame.

He stood the operation well, and on the day following the operation was fairly comfortable, but on the second day he began to vomit, and this soon became peritonitic in character. He was then turned over on his back and enemata given to relieve the abdominal distension, but the vomiting continued, the distension was not relieved and after failing rapidly the patient died of peritonitis, three days following the operation. No autopsy was allowed.

This was one of the earlier operations, when it seemed safer to put the patient in the prone position after removal of the laminæ, a procedure which later experience has shown to be not only needless but, as in this instance, directly harmful. All such cases since this time have been treated without reference to position whatsoever.

Two patients with syringomyelia have undergone operation, one having two operations at an interval of ten months, in the faint hope that the symptoms might be due to a localized tumor. The relief in the second case, though of only a few months' duration, was intense, but the inevitable relapse followed. In the first slight benefit was secured, but sepsis and general exhaustion helped to kill the patient.

CASE 14.—Robert McV.,[1] 32 years old, in general had weakness of both lower extremities, without absolute paralysis, and with no muscular spasm. Increased knee-jerks, slight patellar clonus on the right, and ankle-clonus on both sides existed. The plantar reflexes were good, the cremasteric diminished but present, the abdominal and epigastric absent. There was analgesia to about the sixth dorsal spine, an area of analgesia from on the abdomen up to the fifth rib, and anesthesia on the inner side of the thighs. Delayed sensation was evident on the outer and anterior sides of the thighs. The patient had frequent attacks of chills and vomiting, with high temperature and pulse.

Operation was performed shortly after one of these chills, under ether, and the fourth, fifth, sixth and seventh dorsal laminæ removed. The dura, which felt normal, was opened throughout nearly the entire length of the incision, with escape of considerable clear serum, especially from below. Later this practically ceased. The dorsal vein of the cord was much congested. Nothing else abnormal was detected. No attempt was made to check the flow of the subdural fluid, and the wound was closed with a rubber tissue drain.

The patient stood the operation well, the cord being exposed in eight minutes. One week following the operation motion and sensation in the legs was improved, and apparently a little control over the bladder was gained for a while, but the chills and exhausting sweats continued and the patient grew weaker. Two weeks afterward he had apparently improved in his general condition and had less pain. The wound healed well. This improvement continued for a week longer, with very little pain, and some motion in the toes, and then the motion of the legs also improved. The general condition improved, but seven weeks after operation fever returned, he began to lose ground, and died nine weeks following the operation.

Autopsy showed the absent laminæ replaced by very dense fibrous tissues, the spinal canal completely filled with distended dura, the cord enlarged and closely applied to the dura, which was adherent to it over the dorsal and lumbar regions. The enlargement of the cord began about 7 cm. above the cauda equina, and extended up as far as the cord could be removed in the cervical region. Section of the cord in the cervical region showed two cavities, each several centimeters in diameter, apparently occupying that part of the cord where the gray matter ordinarily belongs. At the lower end of the cord there seemed to be swelling and edema around the central canal for an area of 2 to 3 mm.

CASE 15.—Charles A. B., 37 years old, was seen in consultation with Drs. Benjamin Tenney and W. N. Bullard, in July, 1898. In 1892 the first symptoms of the present trouble began, the hamstrings being very painful when he walked. Later on the pain became very severe, and clonus in the lower extremities was noticed. Four years ago the toes began to drag, the pain increased, and he noticed a band of pain two inches above the knees, which now is as high as the iliac crest. Two years ago total collapse came and the patient has not walked since. For four years the pain has been very severe, the thighs feeling as if in boiling water. Sensation of constriction around the abdomen was as high as the true ribs, sometimes as high as the nipples. The sphincters had never been affected. The upper extremities were normal, but there was total paralysis of the lower extremities, except slight movement of the toes of the left foot. The lower extremities were thin, but not markedly atrophied, the knee-jerks increased, and ankle-clonus marked. He could stand on his toes with the help of a chair. Sensation to touch and pain was apparently normal, but heat and cold not well told below the seventh or eighth dorsal spine.

At the operation, under ether, the sixth and seventh dorsal laminæ were found to be hard and ivory-like, and, as no opening could be found, it was necessary to chisel into the canal before the forceps could be used. The sixth, fifth and fourth laminæ were successively removed. The dura appeared normal, but on opening it a normal quantity of serum escaped, and pressing from in front, a thin membrane protruded through the opening. The pulsation of this and of the dura was less than normal. On opening this membrane a large amount of clear serum spurted out under pressure; as it continued to flow, probably over two ounces altogether, the pulsation of the cord became normal. The cord itself looked and felt normal, and a probe carried above and below the opening detected nothing. The fluid escaped from below as well as from above, and there was no evidence of pressure. The dura was left open, the outer wound being closed with a gauze wick drain.

The patient stood the operation well, except toward the end, when strychnia was used. The patient improved considerably after the operation, having much less pain in the lower limbs, sleeping all night without morphia, a thing that had not occurred for two or more years. The spasm gradually ceased and voluntary motion increased. He was able to use the abdominal muscles in defecation, and the girdle sensation descended lower in the body. Pain reached the minimum about five months after operation, since which time it has recurred, and at the present writing (May) it is as bad as ever.

CASE 16.—This was the same patient as the last one. The symptoms having returned as before operation, the patient journeyed from the West anxious for another operation and relief, even if only temporary. Lumbar puncture was advised, but in the faint hope that there might possibly be a growth at the cone or in the beginning of the cauda, a second laminectomy was performed at the request of Dr. Tenney and the patient.

At this operation, June 4, 1899, under ether, the eleventh and twelfth dorsal and first and second lumbar laminæ were removed. The same condition of affairs as at the first operation was found, no pulsation, a bulging dura beneath which was the pia pushing out as a distinct membrane and restraining a clear fluid which spurted as soon as an opening was made. No disturbance followed the free evacuation of several ounces of fluid, but rather the respiration became quieter and the pulse was not disturbed at all. Careful examination of

[1] This case has been published in detail by Drs. Bullard and Thomas, in "Boston City Hospital Medical and Surgical Reports," Tenth Series.

the lower end of the cord and of the cauda failed to show anything beyond an abnormal fulness of the vessels, which increased as the exposure to the air and the manipulation went on. Exploration above and below for several inches failed to show any appreciable growth. The dura was not closed, the outer wound being closed with silkworm gut, allowing space for several strips of rubber tissue leading to the opening in the pia. There was no shock nor other ill effects noted at the close of operation.

Time enough has not elapsed since the operation to determine the amount of benefit to follow the procedure.

Laminectomy for tumor offers brilliant results where the growth is limited and removable. Such cases are actually though not comparatively rare, but there is no reason why all offering the slightest amount of hope from operative interference should not be allowed the chance of relief or cure. In both of my cases the growth was too diffuse to allow removal, although in the first, one of my earliest, much temporary benefit could have been obtained had I at the time realized the amount of interference the spine will tolerate without serious trouble. The second patient, in whom no tumor was found, probably had a diffuse growth within the cord itself, but unfortunately no autopsy was allowed to verify our supposition.

CASE 17.—Edward LaR., 16 years old, was admitted to Dr. Cheever's service in August, 1894. Eight months previously he began to have pain in his lower extremities. A month later he noticed weakness coming on gradually, difficulty in passing his urine and constipation. Paraparesis gradually increased, and two months ago culminated in total paraplegia with some atrophy. The knee-jerks were absent, no ankle-clonus, plantar reflexes absent, and sensation was diminished over the lower extremities. Shortly after entrance to the hospital, a swelling was noticed on the left side of the spine, in the mid-dorsal region. Examination of a small piece showed it to be a small round-cell sarcoma.

At the operation, under ether, the eighth, ninth and tenth dorsal laminæ were removed. The canal was found to be filled with a dark red, soft growth lying between the bone and the dura. This was curretted out for several inches above the limit of the opening. The dura itself appeared to be healthy.

Very little if any improvement in condition followed operation. The patient continued in fair general health, with a possible slight gain in sensation at the end of six weeks, but died ten weeks after operation.

CASE 18.—Charles W. T., 49 years old, seen in consultation with Drs. Theodore C. Erb and W. N. Bullard, had a number of melanotic sarcomata in various parts of the body. Two months ago motor paralysis of the lower extremities began, and increased until at the time of operation the paralysis was complete. There was no muscular spasm. For a month there had been retention followed by incontinence of urine and paralysis of the sphincter ani, with involuntary dejections. The extremities were flaccid and wasted, knee-jerks slight but equal, no ankle-clonus, and sensation to pain and touch seemed unaffected.

At the operation, under ether, the first, second and third lumbar laminæ were removed. The dura looked darker than usual and dense, and, on its being opened, a clear serum escaped with some force. On slitting up the dura no macroscopic growth was found. A director passed upward and downward for several inches failed to show any constriction. The patient's pulse flagged after opening the dura, he became cyanotic, and it seemed best not to attempt the removal of more laminæ, nor of any growths in other parts of the body. The patient rallied well under strychnia, and was in good condition at the close of the operation. The wound healed well, but the patient showed no signs of improvement, and died in a few months.

Technique.—The writer is convinced that in a large proportion of cases the technique is of importance. Eleven years ago Bullard and Burrell, in an article on this subject, stated that "the key to the success of any operative procedures on the spine will be by the securing of an efficient means for dividing the bony structures with ease, speed and accuracy." The following method of procedure has proved of value in the hands o others as well as of the writer, and he may be pardoned for giving it somewhat in detail.

The incision should be a single one, in or close to the median line. The knife is carried rapidly down to the lamina on one side close to the spinous process; this wound is then quickly and firmly packed with loose gauze, and the lamina of the other side cleared in the same way and packed. If now the first packing is removed, all bleeding is found to be practically checked. By alternating in this way, from one side to the other, the lamina can be easily and quickly cleared of soft tissue without the necessity of securing any vessels with forceps and without a harmful loss of blood. The interspinous ligaments above and below the selected process are now cut freely with scissors, at a single stroke, there being no danger of penetrating the canal. With one bite the spinous process is removed as close to the base as possible, with rongeur forceps. With a pair of laminectomy forceps having double cutting jaws, especially made for the writer by Ford of New York, the laminæ can now be cut close to the median line, easily and without danger of injuring the cord. Time is saved if removal of too much of the roof of the canal is not attempted at first, the opening being easily widened with small rongeur forceps, such as are used in mastoid operations. There is no economy of time nor accuracy in using the chisel or trephine; the former is rarely needed in cases where there is fusion of the adjoining laminæ. There is no advantage in the osteoplastic operation; removal of laminæ apparently neither weakens the spine nor robs the cord of its protection.

There is no difficulty in giving the anesthetic in the prone position, if the patient's head is well over the edge of the table and supported by the anesthetizer. A semiprone position has no advantages.

Most operations can and should be completed easily in thirty minutes. Shock rarely comes before the end of this time, but is liable to be a serious factor if the operation is prolonged. Contrary to some authorities, shock is not "almost always severe," and frequently even in high operations it is not appreciable. As Horsley has intimated, sepsis is the only danger.

Of the hopelessness of operation in acute trauma of the upper half of the cord there can be no doubt, in a very large number of cases; of the hopelessness in all cases there is doubt, as shown by recovery in Winnett's case of immediate laminectomy at the middle cervical region, and Horsley's case where the operation was performed about one week after injury. Faisst's case of tedious recovery from injury in the cervical region suggests that much time could have been saved by a harmless operation, and Walton's cases of recovery after reduction of dislocation are also suggestive of the possibilities from operation in similar lesions due to fracture.

In chronic traumatic cases there can be no question of

the benefit of operating in cervical injuries, as shown by the results reported by Horsley, McCosh and others. When the lower half of the cord is involved, interference is more hopeful still, attaining its maximum when the lesion involves the cauda itself.

In dealing with tumors, Horsley's tabulation of 58 cases in which 80 per cent. could have been relieved by operation, and Starr's group of 100 cases, 75 of which were amenable to operation, give great encouragement.

The treatment of syringomyelia is as yet almost untried, but the temporary relief obtained by Abbe, Warren and Putnam, myself and others, encourages a trial in a surgical direction for the time being.

For acute osteomyelitis, fortunately rarely found, operation offers the only means of relief.

As an exploration in doubtful cases—and nearly all lesions involving the cord are more or less doubtful—laminectomy is justifiable in the same way, but to a less extent, as exploratory laparotomy. Say what we may, we are still ignorant of the exact state of affairs in tumors and many fractures, especially where the deep reflexes are not abolished, in edema and many meningeal lesions. Relief can not by any means be secured in most cases, but that does not justify a complacent do-nothing policy if the condition can be determined by an operation of so slight danger in most instances.

The operation is contraindicated until the profound shock of an accident has passed, and in cases where the cord is completely crushed—a condition that can not always be accurately foretold, however. Furthermore, interference should be withheld if rapid spontaneous recovery is taking place, although it is well to bear in mind that "many an ephemeral recovery with return of paralysis is probably due to edema" (Horsley), and that operation may be required after all in cases with a bright outlook in their early course.

It is still a question whether at least temporary relief may not be obtained in acute myelitis by evacuation—either by lumbar puncture or possibly by laminectomy—of the subdural fluid; at any rate intense relief is obtained by such a procedure in the chronic types.

DISCUSSION.

DR. A. H. FERGUSON, Chicago—The subject is a very important one, and the essayist has covered an enormous amount of material in a very short space of time. It is my opinion that too extensive operations have been performed on the spine for the amount of relief that has been afforded—that is, that a complete laminectomy is a very major procedure for the amount of good that we get, and very frequently a complete laminectomy is not indicated. Instead of making an incision into the middle, make it a little to one side. Pick the tissues from the laminæ and remove the laminæ on one side. All you want is to remove pressure from the cord. That does it in a large percentage of cases; that is all that is indicated. You do a minimum amount of surgery with a maximum amount of good, and you do not disturb the spinus processus, and the strength of the spinal column is maintained afterward. I should like to see more emphasis placed on early operations for injuries. Let us get into the position of operating early for pressure on the cord, as for pressure on the brain.

DR. A. I. BOUFFLEUR, Chicago—There are a few points that I should like to speak a few words on, and one of the most important is the one that Dr. Ferguson barely mentioned at the climax of his remarks. He stated that we should operate early, and yet the essayist told us that we should not operate during profound shock. I believe that our essayist is as wrong in that statement as one would be to say not to operate on a strangulated hernia during profound shock. The condition itself is the producer of shock, and one who has performed several laminectomies will bear out the statement which he made earlier in his paper that the patient's condition at the close of the operation was as good as at the beginning—very frequently it is much better than at the beginning. Shock is no contraindication to a laminectomy; on the contrary, it is a positive indication for one.

There is another point that I wish to mention, which was spoken of in the paper and which I have found present in the minds of some; that because sensation is present, the indication for laminectomy is not present. I do not believe that sensation, accompanied by paralysis, is a contraindication for operation. The last patient I had recover—who was operated on a year ago last September—was one in whom sensation was present, but on exposure of the cord we found spiculæ of bone penetrating the cord and passing completely through it from behind, and another doing a great deal of damage to the motor areas in front. In that case we are able to remove the offending body—posteriorly and another anteriorly—and our patient, although he had been caught under a cable-car, receiving an impacted fracture of three lumbar vertebræ, made a good recovery and is working to-day. I have had two cases of recovery from laminectomy. Removal of the spinus processus does not alter the usefulness and strength of the back; that has been shown time and time again. While we should suppose that the spinus processi were essential to the strength of the back, yet that is not the clinical history of these cases, both cases which I have had recover having strong backs—at least, the first one, a carriage driver, was able to bend himself to a curve in mounting the foot-board of his carriage, and a man who can do that has a very good back. The curve in his back was uniform and not a kink.

As to anesthesia, I wish to mention one point, and that is, in hospital practice particularly, it is well to have your oxygen present, when operating in the cervical region. I have had respiration suspended and immediately restored by the oxygen, and after anesthesia you can continue the operation without much additional ether if you give your patient plain oxygen. I have no doubt that it is of great value in this line. In doing a laminectomy you must not always expect to find serious damage to the cord. I know a case, in which I operated, of complete paralysis in a boy who fell down an elevator shaft; the cord on macroscopical examination, was absolutely perfect, but it caused a complete motor paralysis; operation relieved the pressure on the cord or served to modify the condition of the cord sufficiently, that the nutrition to the part below the injury was benefited.

I had hoped that our essayist would have given us a little more light as to the symptomatology of complete destruction of the cord. That is the point on which we are at present standing and confessing our ignorance. Neurologists do not give us sufficient information, neither have surgeons had sufficient experience to warrant us in coming to any definite conclusions which may be applied in all cases.

DR. FRANCIS D. PATTERSON, Philadelphia—I simply wish to state some benefits that perhaps may result from laminectomy in certain cases. I saw, in connection with Dr. Edw. Martin of Philadelphia, a case of acute cerebrospinal meningitis, occuring in the practice of Drs. Musser and Cheston. The child was unconscious, with a temperature of 105, Cheyne-Stokes' respiration had set in, and the case seemed absolutely hopeless. Dr. Martin twice performed lumbar puncture, withdrawing three ounces of cerebrospinal fluid the first time and two the second, with some slight relief, but in the course of twenty-four hours the symptoms were just as bad as before. It seemed as if the case was now beyond relief, but he decided on laminectomy with drainage of the cord as a last resort. This was performed, and a large quantity of the cerebrospinal fluid gushed up in the wound. He decided to put a drainage-tube in, but found that the loss of the cerebrospinal fluid would be too great and accordingly he packed with sterile gauze. The child's symptoms rapidly ameliorated; inside of forty-eight hours it was impossible to say that the child had any cerebrospinal meningitis; the reflexes returned, and the child became conscious, took nourishment, the temperature became normal, and in every way it seemed to be recovering. Unfortunately, however, it developed acute edema of the lungs and died. I wish to add that cultures were made of the cerebrospinal fluid so evacuated, and they proved to be pure cultures of the micrococcus intracellularis. The skull was also trephined through the left parietal bone for fear there might be localized abscess in the cerebellum, but repeated probing failed to show any localized foci of suppuration.

DR. BAILEY, Chicago—I have operated on two cases, but they both died. The first one was a case of injury to the lower lumbar vertebra from a very serious traumatism. On opening the spine it was found that there was so much destruction of tissue that it could not be expected that recovery could take place. In the second case there was a gunshot wound. The ball entered over the scapula and passed through the spinus processus of two of the vertebræ. In this case, after the removal of a portion of two vertebræ, there was absolutely nothing to be found microscopically, and that confirms the opinion

spoken of by the last gentleman but one, and this patient died. With regard to doing a hemilaminectomy, I would infer that it was a difficult operation, because a hemilaminectomy is the removal of a bone in a deep surface, but in regard to the technique, in the first case I did it by rongeur and chisel; in the second case by the Devilbiss forceps, which I think is a very useful instrument, here as well as on the brain. In doing these operations I made one incision and pared back the tissues on either side and packed. After denuding the point, I took a small trephine, and, opening one of the laminæ, I introduced this instrument to bite out any of the tissues.

DR. J. C. MUNRO, Boston—Why not do a lumbar puncture in place of any form of laminectomy if relief of pressure of the spinal fluid is all that is sought? A hemilaminectomy has no advantage over a complete operation from any point of view. The latter operation can ordinarily be done in twenty minutes and with very little shock. As to wiring the laminæ after operation, there is nothing to be gained; I have seen a number of cases of removal of several laminæ without any subsequent trouble, one patient having had eight laminæ removed in blocks of four.

As for operating early, I believe in it if it is not too early. In the case of a man who falls five or six stories and breaks his back, I believe it is bad surgery to operate while he is in profound shock; it is better to delay until reaction sets in, when the operation, which would easily be fatal at first, will be of but slight importance. The presence or absence of sensation is not of itself a contraindication to operation; other factors must be considered. I have not found it necessary to use oxygen in my cases; they have all taken ether well.

In reference to Dr. Patterson's laminectomy in meningitis, I think it has been done a good many times and may be of benefit occasionally, but ordinarily lumbar puncture will answer the purpose.

I should think that the use of the forceps that Dr. Bailey suggests would be good, but there is no use in lengthening the operation, and I am sure that my forceps aid materially in overcoming both delay and difficulties.

THE TUBERCULIN TEST, AND THE NEED OF A MORE COMPLETE DIAGNOSIS OF TUBERCULOSIS.

BY CHARLES DENISON, A.M., M.D.
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Having been at work on similar lines[1], I am much interested in the perusal, just finished, of the excellent paper of Dr. Edward B. Otis, on the "Value of the Tuberculin Test in the Diagnosis of Tuberculosis[2]." My friend Otis may say that I am too sanguine in my discussion of his paper. I will return such a compliment by saying that he is too conservative, especially in his conclusions. For, though agreeing with him, in his high estimation of the test, I think he could have added from 10 to 20 per cent. to his successes, had he varied his procedure or differently estimated its results.

1. As to the tuberculin used: While allowing it to be preferable to use the same standard material as to virulency, the particular make—if it be pure—does not count for so much if the plan I propose be followed out, namely, to nearly double the previous day's dose, until some systemic or temperature reaction shall have occurred. It may be said that thus there will be occasioned a cumulative effect. That is precisely what can be estimated as a diagnostic measure of the susceptibility, or the latent tuberculosis existing in the person tested.

If a sufficient dose be not given to start with, I object to Dr. Otis' rule being made to apply, namely, "Allow several days to elapse before repeating the test," excepting, I would say, where you get a doubtful or incomplete reaction, or are testing a case already showing a daily exacerbation of fever. In that case the increase of that fever, and its subsidence in the interim between delayed doses, is a diagnostic guide. But what would be a sufficient dose is not known in advance; it is a problematic affair. And here—I take it—comes in the explanation of why some of the Doctor's cases known to be tubercular, did not react. If too small dose be given, and several days are allowed to intervene—before the next dose—a slightly tubercular case is thereby acquiring a tolerance or partial immunity which precludes the very reaction we are after. Just so, an already resistant person, having a local infection, encapsulated tubercle, or glandular tuberculosis—i. e., scrofular or adenoid glands—will of course not react to an insufficient dose; especially if it be not repeated soon enough to overcome the tolerance already existing. This tolerance, progressively increased by appropriate intervals between injections, is just what we are after in the treatment of tuberculosis with tuberculin—now better still with watery extract—but the test under discussion, it is hardly necessary to state, is only intended for latent cases of tuberculosis, those not positively known to be affected, or as a proof of cure.

2. As to the maximum dose: I believe that the dose that Dr. Otis limits himself to, namely 10 to 12 mg., is insufficient for some cases, and consequently a correct diagnosis might be missed. Dr. von Ruck gave to himself 25 mg., and again, I understand, 35 mg., in order to be sure that a rebellious "cold," and suspicious signs, did not signify infection from his dealing so much with the tuberculous. I have succeeded in a few cases in becoming positive of latent tubercular infection, with 15, 20, and 25 mg., though the majority of cases tested began to respond to 5 mg. or less.

My method is to make a 1 per cent. solution of the crude tuberculin[3] in a .75 per cent. carbolic acid in distilled water. Of this then, .10 c.c. equals .1 mg. The commencing dose then would be from 1 to 2 mg. for a suspiciously sensitive and tubercular person—a girl in her teens, for instance—and 3 to 6 mg. for a less impressible person—an adult male, for instance.

I object to the arm for this hypodermic injection, or to choosing any place for it where liability to local inflammation might cloud the result. Underneath the shoulder blade, and on that side usually uppermost when sleeping, is the best spot. Then, if the temperature of the patient is known to be regular and even, or has been regularly taken for two or three days previously, at 9, 1, 4, and 8 o'clock, in order to catch any habitual daily variation, you are ready to commence the daily dose, nearly doubling the one of the previous day, until you get a first reaction. Then, if not fully satisfied, another increase after an interval of a day or two will clearly settle the diagnosis. As already intimated, the maximum dose may be 10 mg. and it may be 30 mg., according to the case; but the stage at which reaction occurs is used as a measure of the susceptibility and latent tubercular infection of the patient tested.

3. What is a sufficient and reasonably clear, diagnostic reaction? The answer to this question is capable of taking a wider range, I believe, than that taken by Dr. Otis. As he states, it is unfortunate, owing to the "ambulatory" character of his clinic, "that local condition after the test was not noted," and that the personal sensations of the patient had to be relied on, as to whether or not a reaction had occurred. I believe that by the stethoscopic and visual evidence of local changes in suspected or unknown diseased areas, and from the resulting variations in the temperature, others would have been found to have reacted.

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1 "A Plea for the Better Appreciation of the Tuberculin Test in the Diagnosis of Latent Tuberculosis." Jour. of Tuberculosis, April, 1899.
2 JOURNAL, Oct. 28, 1899.
3 Obtained from Victor Koechl & Co., or Von Ruck's Laboratory.

Aside from grippy sensations or general malaise, there may be a tenderness in tubercular growths, or in glands or cervical adenoids and a stiffening up of lung tissue—peribronchial glands—perhaps due to increased leucocytosis excited there. In affected lung areas this is to me instructively diagnostic. Its detection depends on "the before and after taking" investigation with a good sound-transmitting stethoscope. The exaggerated bronchovesicular breath-sound, higher pitched than before, or puerile in character, may thus be found in a few cases. I detected this local sign eight or nine years ago, when crude tuberculin was first used in treatment, but I have succeeded in impressing but few physicians with its existence, or importance, perhaps a fault of technic. However, in several cases it has located for me an affected area in a previously unsuspected spot. It is one of the nicest confirmatory diagnoses we have of the previously uncertain finding of physical exploration and auscultation, and who of us is not encountering these uncertainties? I am sure I do frequently. Others must, for I could frame an arraignment of the average physician for carelessness, or what is more, ignorance of what should *not* be uncertainties. This arraignment would be based on some such summary of facts as follows:

1. Physicians almost everywhere, measuring by the fees they charge, do not adequately estimate the importance of their physical examination. Country doctors often charge but little more for such services than for ordinary visits; others give too little time to a critical examination.

2. Not 5 per cent. of the physicians in the United States keep tabulated records of their physical examinations.

3. Too often the chest during exploration has been unexposed, or parts of the thorax have been entirely overlooked.

4. In country practice generally no plan has been arranged by which to determine the daily variation of temperature.

5. Mensuration has been defective, and not 1 per cent. of the physicians have accurately, by measure, compared the movements of the two sides of the chest.

6. Not 5 per cent. of several thousand examinations by others known of have had stethoscopic percussion tried, the most valuable means we have for detecting and outlining areas of softening or excavation. Another method nearly as often neglected is auscultation during a cough, a valuable method in determining the very commencement of softening.

7. In probably not more than 1 per cent. of examinations have the spirometer and manometer been used, instruments so needful to confirm and throw light on a correct diagnosis, and doubt on an incorrect or false one.

8. Six-sevenths of the stethoscopes in use are quite deficient in sound-transmitting qualities, and the fact that so many phonendoscopes and auscultoscopes are sold in itself bears proof of the diagnostic "inproficiency" of the average American physician.

9. The so-called "stomach coughs," "typhoid pneumonias," "bronchial catarrhs" and "chronic bronchitis" are far too often given as the explanation of conditions evidently tuberculous from the beginning.

10. The expectoration has been previously microscopically studied in less than 10 per cent. of the cases seen in the last ten years, and too often, when examined, a negative result, to be expected at the given stage, has lured the physician and his patient into harmful inactivity, until all of a sudden the disease has broken forth into a state of angry vigor that any layman, not to say doctor of medicine, could understand.

11. The tuberculin test has been seldom used, even during the past five years, when the experience of veterinarians in every state of the Union, and of divers physicians all over the country, was amply sufficient to convince a fearful and over-cautious profession of the comparative harmlessness of this excellent test.

These are only a few of the criticisms which show the need of greater care and proficiency in diagnosis by physicians universally, before we can get ahead of tuberculosis, i. e., detect it in its incipiency.

The questions of treatment, either climatic, hygienic, constitutional or specific, are not here being considered or even mentioned. I am considering diagnosis only; and twenty-six years of experience with invalids, referred to me by courtesy of brother physicians from all over the country, has given ample basis for delivering this diagnostic "kick." The climate here is all right and will add 10 to 20 per cent. to the recoveries otherwise obtainable in low altitudes, but the revised records of individual cases confirm and enforce the truth that an earlier and better diagnosis of tuberculosis is needed.

In lately reading Dr. E. C. Dudley's excellent work on gynecology, I was impressed by the definiteness of description shown, and the demarcation of the line between what we know and what we do not know. It was in marked contrast to our vague knowledge of thoracic and blood diseases. After all, the superficial, drifting laxity, complained of in general medicine, may have its excuse in the inferior estimate the doctor himself puts on his services, and an unappreciative laity's ignorance of the importance of detail and thoroughness is perhaps only a reflex of this inefficiency characteristic of the times. Tuberculosis is so much the accompaniment of poverty that an incentive is wanting to the carrying out of that nicety and thoroughness of detail in diagnosis which wealth makes possible. Therefore, it seems as if publicly-supported institutions, boards of health, dispensaries and hospitals ought especially to be supplied with and to utilize the most accurate means for the early diagnosis of tuberculosis, and among them the tuberculin test.

OPHTHALMIA NEONATORUM.*

BY DUDLEY S. REYNOLDS, A.M., M.D.

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Ophthalmia neonatorum is a disease assumed to occur coincident with birth. Clinically, it always means some form of purulent inflammation of the conjunctiva. It has been variously denominated as catarrhal, mucopurulent, blenorrheal, and gonorrheal. It appears as a catarrhal or suppurative inflammation of the conjunctiva, attended with more or less swelling of the lids. It makes its appearance, according to Swanzy, from the second to the fifth day after birth. Noyes fixes the time "at about the third day, but may be delayed as late as the eighth day." Nettleship says it appears on the third day after birth. Fuchs says it appears, as a rule, on the second or third day. It is agreed by all writers on the subject that the disease occurs uniformly between the second and eighth day after birth.

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* Read before the Tri-State Medical Society, at Chattanooga, Tenn., Oct. 25, 1899.

Mode of Infection.—It was formerly considered to be caused by improper exposure of the eyes of the new-born to light, and to that mysterious source of all acute diseases, catching cold. Recently the text-book writers have all united in ascribing it to infection during the act of birth. It is maintained, by a large number of the most recent observers, that the disease is nearly always of gonorrheal origin, and that the infection is derived from the maternal passages in the time of parturition. This hypothesis is based very largely on the generally recognized fact that some form of mucoid discharge occurs in nearly all parturient women, especially during the last days of pregnancy. It is maintained by some that the disease is most common in the eyes of those born of face presentations, a comparatively rare observation in obstetric practice. The time at which the disease appears after birth would seem to contradict the theory that the infection occurs during delivery.

So long ago as 1841, Piringer demonstrated that a healthy conjunctiva inoculated with matter from purulent conjunctivitis reproduces the original type of the disease in from six to seventy-two hours, according to the virulence of the inflammation furnishing the virus.

It is agreed by genito-urinary surgeons, that a gonorrhea is likely to appear within twenty-four hours after exposure, and it is more than likely in delayed cases that the infecting agent is retained in the folds of the prepuce and does not at once attain contact with the urethra.

Bacteriologists have shown that the staphylococcus aureus procreates in culture-media, within twenty-four hours. How can it be possible then, that any of the purulent infections of the conjunctiva appearing later than twenty-four hours from the time of birth, may reasonably be ascribed to infection in the maternal passages?

It is a fact that gonorrhea is by no means the common infection, far the larger proportion of cases being due to the development of the staphylococcus aureus, or to some one of the numerous micro-organisms which are known to beget mucopurulent inflammations of the conjunctiva.

In a rather large experience at the Louisville City Hospital, covering a period of nearly thirty years, I have noted that ophthalmia neonatorum is comparatively rare since the introduction of trained nurses, excepting when attempts at preventing the disease by antiseptics have been made. I am thoroughly convinced that the disease appears almost uniformly as the result of unskilled attempts at washing the face, or meddlesome interference with the infant's eyes. In 1894, immediately preceding my term of service there, nearly every child born in the City Hospital had purulent ophthalmia. The practice in the obstetric wards, of attempting to prevent the disease by Credé's method, was, in my judgment, responsible for the infection. I induced my colleague to have this practice abandoned, and to permit no interference with the eyes of the new-born. From this time on, during my term of service, no new case appeared. Similar experience in many other years of service might be cited.

Mode of Prevention.—When the baby is born, the vernix caseosa should be removed from the skin by a thorough application of petrolatum with the clean hands of a trained nurse. The greatest care should be taken not to touch the eyelash, nor to invade the region of the palpebral fissure. To remove the petrolatum, a stiff probe or stick should be used, on the end of which is rolled a portion of absorbent cotton, forming a small compact mop with which to wipe the skin of the eyelids, and the side of the nose; the greatest care being taken to prevent the mop touching the inner canthus, where there is the greatest danger of inoculating the conjunctiva. It is assumed that all babies are born with the eyes closed; that the lashes of the upper and lower lids project outward in contact, thus protecting the palpebral fissure.

The fact that ophthalmia neonatorum does not occur, as a rule, within the first twenty-four hours after birth, demonstrates the absence of infection at time of birth, and clearly establishes later inoculation. If, by any accident, the eye should become irritable and watery, it may be flushed with normal salt solution, without detriment to the infant, and with soothing effect to the eye. If, for any reason, there is cause to suspect inoculation with infectious matter, any antiseptic application to counteract its effects should be of a mild and unirritating character, for it is manifestly clear that sterilizing the surface of the conjunctiva is all that is necessary to retard the growth of a freshly introduced ferment. Surely any agent sufficiently powerful to destroy its vitality would excoriate the conjunctiva.

Treatment.—If the disease is seen in its earliest stage, the stage of irritation, a collyrium of the following composition may be used:

℞. Borate of sodium.....gr. x
Chlorid of sodium.....gr. iii
Crystals of carbolic acid.....gr. ¼
Distilled water.....ʒi

It is needless to say all collyria should be filtered before using. A drop of this should be instilled into the irritated eye every half hour. If the irritation increases, and tumefaction of the lids comes on, small flakes of coagulated mucoid matter begin to make their appearance on the conjunctival surface, and presently the discharge is purulent in character. The collyrium should then be supplanted by a fluid similar in composition, to be used with an irrigator, every half hour, both day and night. If the discharge increases, becoming profuse, the interval between the irrigations may be shortened to fifteen minutes. If, on the contrary, no accumulated inflammatory matter is present at the end of the prescribed interval, the time between the irrigations may be extended. In all those cases due to staphylococcus inflammation, and in the milder types, this plan of treatment, being commenced in the outset, will be found amply sufficient if thoroughly carried out. In those purulent forms where the discharge of pus is profuse at the time the treatment is begun, and where it is likely the disease is of gonorrheal origin, the fluid for irrigation should be,

℞. Chlorid of sodium.....ʒiii
Bichlorid of mercury.....gr. iv
Carbolic acid.....gr. xvi
Water.....C.i

To be dissolved and filtered.

If the disease does not seem to progress well, do not be discouraged; make the intervals sufficiently short between irrigations to prevent accumulation of pus; apply it thoroughly, and the disease will certainly yield. If pseudomembrane forms on the surface of the conjunctiva, do not remove by forcibly wiping the everted lid, which will likely produce abrasions of the surface, thereby intensifying the inflammation. In gonorrheal cases, which may usually be distinguished by the presence of chemosis, and by the discharge of bloody serum mixed with the pus, during the first two or three days of the attack, such extensive swelling of the upper lid may have occurred as to make eversion impossible. In such

cases a free canthotomy should be done in such manner as to extend the free border of the lower lid outward, quite to the bony margin of the orbit. This will include division of the outer and middle rings of the orbicularis palpebrarum muscle, and the superior external lid band. Generous ablutions of warm borax water may be made to encourage the flow of blood, as well as to assist in the process of cleansing. I recall many in whom I have done this operation with most gratifying results. A young woman whom I recall to mind, the daughter of a brother physician in Louisville, had her eyes infected with gonorrheal matter about ten days after her birth. The doctor employed such agents as his confrère, who delivered the child, suggested. On the fourth day after the disease began, the upper lids were so enormously swollen as to project quite down on the cheeks. In this condition I was called, and at once practiced free canthotomy on both eyes, after which the irrigation with the chlorid of sodium and bichlorid of mercury solution, already described, was employed every twenty minutes. In ten days the patient had entirely recovered, without corneal abrasions. The family were greatly discouraged during the first few days of the treatment, but as nothing better seemed available, they quietly submitted, with the result already stated.

CONCLUSIONS.

1. Ophthalmia neonatorum means infectious conjunctivitis.

2. It is always the result of contagion, very rarely, if ever, occurring in the process of delivery, the infecting agent being introduced either at the time of attempting to practice the Credé method, or some similar mode of prevention, or by unskilled handling of the eyes of the infant by the nurse.

3. The clinical forms of the disease may be divided into mucopurulent and gonorrheal, which latter, being purulent also, is difficult to distinguish, and so we may conclude to divide the three forms according to the nature of the infecting agent: *a*, the micrococcus Pasteuri; *b*, the pneumococcus, or the bacillus of Weeks; *c*, the staphylococcus aureus, and *d*, the gonococcus of Neisser.

4. The only efficient mode of prevention is that which avoids infection, and which it may be readily seen should forbid the person who handles the soiled linen of the parturient woman from handling the child. The irrational methods of Credé, and others, who have advocated the use of a 2 per cent. solution of nitrate of silver, or similarly strong solutions of bichlorid of mercury, formalin, etc., can not be too strongly condemned, as they can not prevent the ordinary sources of infection. A single application could not destroy the infection after it has been introduced. The irritation it produces leads to subsequent handling of the eyes, and multiplies the chances of infection.

5. In well-marked cases, where one eye alone is infected, the sound eye should be protected with Buller's shield. The watch-glass should be strapped carefully to the cheek, up the bridge of the nose, and along the brow with rubber plaster, firmly and well applied, leaving the temporal side of the glass unattached. This shield once applied, should not be removed, unless perchance the condition of the eye should demand it. When the Buller's shield is found necessary for the infant, its arms should be so confined as to make it impossible for it to bring its hands to the face. This may be accomplished with an ordinary wrap, secured with safety-pins.

6. In the treatment of all cases of infectious conjunctivitis, the irrigator should be employed. It should consist of a vessel capable of holding a gallon. The fluid to be used should be placed in the vessel, which should be hung not more than twelve inches above the plane of the patient's head. A glass dropping-tube should be inserted into the rubber as a nozzle, for two reasons: 1, the stream from the irrigator should be small; 2, the nozzle should be of such material as may easily be kept clean. Great care should be observed by the person using the irrigator, not to permit the finger nails, or the nozzle of the irrigator to touch the cornea, as one of the principal dangers from infectious conjunctivitis is found to arise from invasion of the cornea through abrasions. Where the formation of pus is rapid, the interval should be short, and the applications made with great regularity, both day and night. Some have asked whether the child should be disturbed when sleeping; the answer should be, unequivocally, yes! Pay no attention to the question of sleep; it will be found that the irrigation does not cause pain, and may often be conducted without awaking the child, after the first day or so. The great question to be constantly borne in mind is the necessity for frequent and thorough washing away of all inflammatory matters from the surface of the affected membrane. Such matters as adhere so tenaciously as to resist the frequent irrigation should be left undisturbed by other means. It is likely, in most cases of active inflammation, that a pseudo-membrane will form over the palpebral conjunctiva. In gonorrheal cases abrasions are presently occupied by masses of lymph. Should this be removed, deeper tissues will be invaded. Eversion of the lid is necessary to proper cleansing of the eye in every case. The old lid retractor of Demarres is a most useful instrument for the purpose. If the swelling is so great as to make eversion painful, canthotomy will relieve it. This never leaves any visible scar. It should always be done with the scissors, the point of the blade to be introduced between the lids being blunt. Properly carried out, this plan will be found so successful that the wisdom of Sydenham's declaration: "He who cleanses well, cures well," shall receive abundant demonstration.

A CASE OF CHRONIC INVERSION OF THE UTERUS: SPONTANEOUS REDUCTION AFTER THREE YEARS.

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OMAHA, NEB.

In bringing to your attention to-day the subject of inversion of the uterus, it is done partly because our program has never before borne such a one, and partly because it is practical; this latter because anyone attending a lying-in woman may meet with such a complication, not often, it is true, possibly not once in a lifetime, or in several lifetimes, for when we consult such records as that of the Rotunda Hospital in Dublin we find only one case in 190,000 deliveries, and in St. Petersburg no case occurred in 200,000 births. Few obstetricians have seen a case, but the subject is practical, for the unexpected does too often happen. It does not follow that because large hospitals where skilled aid is at hand, present so few cases of inverted uteri, they are so very infrequent, when we turn our attention to the methods of accouchment as followed by the omnipresent midwife, who can not appreciate etiologic factors that certainly

* Read before the Medical Society of the Missouri Valley, at Council Bluffs, Iowa, Sept. 21, 1899.

are not infrequently present. How can she understand that pulling on an umbilical cord whose placenta may be firmly attached to the fundus can, in the presence of certain conditions, turn the uterus inside out, and yet her invariable method of placental extraction is to pull on the cord until either the placenta, and sometimes the uterus too, is delivered or the cord is severed at its placental attachment. One often marvels that inversion is of such infrequent occurrence. Perhaps traction on the cord with fundal attachment is only one link in the chain of etiologic factors. Crampton states that "1. Inversion is preceded by paresis of some portion of the uterine muscle (not necessarily at the placental site), caused either by too frequent child-bearing, tedious labor, previous miscarriages, traumatism, emotional excitement, or too rapid delivery. It is a pure neurosis in its inception. Traction on the cord may induce prolapsus, or severe procidentia. It will never alone produce inversion; but may facilitate it if paresis is present. 2. It is more apt to occur in primiparæ. 3. This liability in primiparæ is due to the peculiar emotional excitement preceding and associated with first labor, reflected upon the exhausted uterine muscles, for the first time called into unusual action. Given a slight degree of depression of any portion of the uterine body, and the natural vigorous contractions of the uterus in a first labor become a source of increased danger."

Beckman, from 100 tabulated cases, collected from 1885 to 1895, concludes that spontaneous origin is most frequent, and he believes that relaxation of some part or of the entire uterus is necessary.

From this it is not difficult to see, given a case of uterine relaxation with fundal placental implantation, how traction on the cord can produce inversion. An inversion having taken place, immediate replacement can be accomplished in a great many cases; failures are not infrequent. However, the mortality is great, and it is said to be from 30 to 50 per cent. If reduction is not accomplished, either because the constricting ring is too tense or because skilled aid is not at hand and the patient survives the gauntlet of shock, hemorrhage and sepsis, we have a condition known as chronic inversion, which may become permanent or may end in spontaneous reduction.

To illustrate this latter condition the following case may not be out of place.

Mrs. F. K., born in 1857, was admitted to the Omaha (M. E.) Hospital in October, 1893, her age being 36. She was about 5 feet 4 inches tall, and weighed 175 pounds. She was an American by birth. Menstruation began at the age of 13 years. She was married at 20. A year later she gave birth to a dead child which weighed 10½ pounds. Then followed, in regular succession, eight children and two miscarriages. Her youngest child was three years old when she was admitted to the hospital. Her own mother had twelve children. Since the birth of her last child she had suffered from frequent and exceedingly profuse menstrual flows, many of which became so alarming that medical aid was summoned. Any unusual strain always induced a bloody discharge.

On examination per vaginam, the palpating finger came in contact with a round, globular, orange-sized enlargement, which suggested an extruding intrauterine polypoid. Hemorrhage immediately became profuse, and further manipulations for the time being were suspended. She was much exsanguinated, from more or less constant loss of blood, so she was placed in bed a few days, and was induced to partake of fluids in large quantities. In about a week, under chloroform anesthesia, a more careful exploration revealed an unexpected state of affairs. The polypus could be traced on all sides, not more than one-half inch above the margins of the external os. Nowhere could be found a uterine cavity. On bimanual examination no fundus uteri could be felt above the pubes. Her abdominal paniculus being very thick, the condition was somewhat doubtful, but a rectal exploration set all doubt at rest; there was no fundus in the pelvic cavity. So we changed our diagnosis from uterine polypus to chronic inversion of the uterus, of three years' standing.

After the usual vaginal disinfection process, an attempt was made at reduction, by first inserting four pairs of vulsellum forceps, one in each of the four quadrants of the cervix. A steady downward pull was exerted on the vulsella, and firm upward pressure on the fundus uteri, but no impression could be made on the organ. An attempt was made to dilate the cervix at the constricting ring, which partly succeeded, but renewed and prolonged efforts at reduction were futile. No other course seemed practicable than dilation of the constricting ring by the abdominal route, or a hysterectomy, but since we had not obtained the consent of the patient for so grave a procedure, not having anticipated such a contingency, only one course seemed left open. The hemorrhage had become profuse, to an alarming extent, and this must be stopped. A thick velvety mucous covering which bled on the slightest touch enveloped the uterine tumor. To remove this investment seemed indicated, and was immediately done with a sharp Volkmann spoon. The entire uterine mucous membrane was removed, leaving a firm, hard, fibrous surface from which no blood exuded. After a copious flushing and removal of the vulsella, the uterus was pushed upward and the vagina firmly packed with iodoform gauze, hoping by continued upward pressure to make a gradual reduction, as was suggested first by Tyler Smith. This packing was removed every few days, but after about two weeks of these efforts, which were very painful to the patient, no progress seemed to have been made, and all further efforts at reduction were refrained from and the woman sent home. She was lost sight of, and nothing was heard from her till a few months ago, when it was learned from her physician, much to my astonishment, that she had passed through a normal confinement since her return home.

What had meanwhile taken place? Spontaneous reduction and complete regeneration of the uterine mucous membrane. The spontaneous reduction in our case supports the view of Tyler Smith, that the constricting ring is not always equally tight. Unfortunately we can not sit by and watch for the favorable moment when relaxation is at its height. Fortunately, Nature does occasionally succeed where art fails.

It is interesting to note the regeneration of the uterine mucous lining in this case. It set at naught the objections so often urged against curettement, that a scraping away of the uterine lining destroys its normal function for all time. In our operation the mucosa as wel as the submucosa was removed as thoroughly and com pletely as it is possible without destroying the follicula zone. Such a complete removal of mucous tissue is in possible by the usual method of curettement, howeve carefully done. One need have no fears about t restoration of the endometrial lining after the most ra cal curettement possible, providing malignant dise can be excluded.

FROM SADDLEBAGS TO POCKETBOOKS.*

BY B. T. WHITMORE, M.D., LL.D.
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Within the memory of men yet young it is not difficult to find the picture of the ancient physician, of the old type and taking a wholesome pride to himself as belonging to the old school, in fighting the battles of which he would expend a mighty polemical energy. He was an ornament to his profession, and his profession reflected honor on him. With the minister and the squire, the doctor formed the triumvirate of the American community, leaders of public opinion, foremost in all public works, the friends and advisers of all classes of society. There was then no opportunity for specialism nor for office practice. The old doctor was called to cover a wide district in his gig, more often on the back of an equally sedate horse, which had through long experience learned the doctor's calling list, even if not his method of treatment. But whether in the gig or on horseback the ancient physician made his welcome way, he was never to be dissociated from his saddlebags. They were the outward and visible sign of his profession. It was only in chronic cases that he brought the saddlebags into the house with him when he had hitched his horse to the palings of the front fence, where he might nibble succulent grass or reach over the pickets to get the taste of the Drummond phlox rankly growing in the garden. Who will ever forget the pride of the errand when the good old doctor said, "Sonny, run out and bring in my saddlebags?" There was always some reward, an inch of Spanish licorice or some such matter, that made the errand pleasant to run.

There was more in those saddlebags than mere medicine for the old-time doctor. Under the dark-stained flaps of leather was his whole theory of the practice of medicine. The object of this paper is to amplify somewhat on that point. Physicians no longer carry the saddlebags. In relinquishing them they have weakened their hold on something for which the saddlebags stood. It is intended to ask attention to a few suggestions in the direction of practical advice as to how to retain that principle for which the saddlebags stood, and which it is not wise to permit to drop out of our modern practice.

The real meaning of the ancient saddlebags was that the physician was his own dispenser. After the pulse had been counted for the full thirty seconds ticked off on the old silver bull's-eye watch, with its bunch of seals; after the laying of the soothing hand on the fevered brow had in some fashion taken the temperature without the clinical thermometer, what came next in practice? Who can forget it? The essence of healing was in the gentle order, "Bring me two clean tumblers and a pitcher of water." The rest came from the wonderful saddlebags. No one knew just what it was, but it had its merit, and the doctor left with careful directions as to which glass was to be taken first and how to keep track by shifting the spoon to the glass next to be used.

The physician dispensed at the bedside his own medicines. In more than one sense they were his own. Many of them he had prepared. Many were officinal plants which he himself had collected. "Roots and yarbs" they were often called. So they were then, so they are to-day, although they are supplied in bottles for ready use. In those days the physician was familiar with the raw material and the processes of the gallipot. Many of his tinctures and extracts were made at the back of his own kitchen stove, and the profession of medicine rather prided itself on the ability to make a neat pill.

The change to modern methods of practice has affected the physician. The saddlebags have passed away. He may have his pocket-case for tablet triturates and for the hypodermic syringe, but he has ceased in the main to be his own dispenser, and he has entirely ceased to be the preparer of his own remedies. In the change the physician has passed along to the druggist and to the manufacturing pharmacist the responsibility for the quality of the remedial agents for which he calls in his written prescription. These two, then, in modern practice, appear as adjuncts to the practitioner.

In this modern development the dispensing druggist takes a position of dependence on the manufacturing druggist. On him he depends for the ingredients of the prescriptions which he is called on to fill. The manufacturers, on whom the dispensing druggists—and through whose intermediation the prescribing physician in the second instance—have to depend, have gradually differentiated into two special lines.

The first of these is the manufacturer who holds himself rigidly to open pharmacy. What that means there is no need here and now to define, for it is thoroughly appreciated. In his relation to the general subject of this paper the manufacturer in open pharmacy is loyal both to the medical profession and to the druggist. In his relation to the practitioner he is to be understood as conserving his interests scrupulously and honestly. The physician has, through the change in social conditions, relinquished of his own volition the right to dispense. For his own greater convenience he has encouraged, through the system of prescriptions amounting to unspecified drafts drawn on the pharmaceutical profession, the retail druggist to advance to the position of the general dispensing agent. By this means he saves himself, for the greater advantage of his own profession, the preparation and dispensing of his remedial agents. At the same time the druggist has in the same voluntary way relinquished to the open pharmaceutical manufacturer the collection and preparation of the essential ingredients which enter into the formulation of the prescriptions which the medical profession entrusts to him. By following methods strictly ethical the open pharmaceutical manufacturer has made himself a valued and respected adjunct of the physician and the druggist.

The second of these lines of special development comprises the manufacturers who engage in the promotion of agencies which are protected either as a process or as product patents, or which accomplish the same end by copyright on names or by trade-marks; and finally, those proprietors who seek to monopolize the field by secret formulas. It might be shown that there are grades in this line of industry, and some interesting details might be presented but for the limitations of time and space. Yet attention must be drawn to a parting of the ways in this particular line. There are two strongly marked cases of such manufacturers, and their relation to the medical and pharmaceutical professions, while the same in the last analysis, follow different paths which only in the end converge.

One class of such manufacturers makes its appeal directly to the laity. The remedies put forward by the manufacturers of this class may or may not have a name more or less medical in tone. But they make the

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practice of appealing to the laity without the intervention of the medical or of the pharmaceutical profession. They describe symptoms and they denominate maladies in which they claim efficacy for their product. The logical outcome is self-prescription, which entails to the physician and to the druggist a certain loss and to the lay user a more serious damage. Little need be said as to this class of manufacturers; their position is known and the results are recognized.

The second class is less open and is far more insidious in its operations. It makes the public profession that it does not appeal to the laity; that its efforts are expended on the practitioner in close restriction. Its remedies are uniformly in the guise of strict medical nomenclature. It forwards its literature to the doctor and asks him to use its goods in prescribing. In this it makes him the agent to his own undoing and to the crippling the druggist, his assistant. In practice the advantages of these products are always more or less publicly made known to the laity. The prospectuses continue to bear the label "For the Doctor Only," but the private person into whose hands they fall thinks all the more by reason of the restricting label that he is getting true wisdom, that he becomes "even as the gods, knowing good and evil." Even if that does not happen the result becomes the same. Suppose the instance where the physician includes in his prescription some one of the products of this sort of manufacture; the patient learns from the bottle what to take and for the future he takes it without reference to the physician. The progress to self-prescription is only a little delayed, it is none the less inevitable.

Now, these are conditions which must be met by the profession. It is not that an appeal is made to the mercenary side, although the member of the profession is entitled to his honorarium. It is that as a profession having in its keeping the public health, it must face the dangers arising from the unskilled use of medicines.

It is not the intention to comment on this condition which has arisen without indicating the remedy. The rofessional integrity of the physician, as well as his personal interest, summons him to meet this newly arisen condition, and to meet it now while it is as yet in the formative stage. The remedy proposed is specification.

The druggist is as yet uncertain of his position. His desire leads him to remain as the valued assistant of the medical profession, to regard his prescription department as the center of his activity. For the moment he is hesitating between his profession and the allurements of commercialism. In this contingency the honest retail druggist welcomes specification by the physician; it serves to anchor him to his noble profession. If a prescription brought to him to be filled calls for essence of pepsin he may look at it in two ways. As a commercial man he will supply the essence of pepsin which is the cheapest to him to buy and which will when dispensed yield him the correspondingly larger profit. But if the prescribing physician will only show that he has made examination into the quality of the various pepsins, and has taken the pains to specify one make, the druggist is gladly freed from the responsibility of the choice and dispenses with professional satisfaction that which he finds specified in the prescription which he is filling. In the same way when the prescription calls for cascara sagrada. As a commercial man he knows that there are a score of cascaras of varying strength, but if the physician will but specify the product of a certain house, the druggist knows that the effect expected by the physician will in all human probability follow.

The druggist will gladly welcome specification. The physician should regard it as a duty. That brings the final consideration back to the saddlebags in which it began. The saddlebags of the old-time physician represented his own dispensing agency. Nothing went into them unless he had convinced himself of its efficacy. There are no longer saddlebags, but the duty is the same, the physician must certify in some way to the therapeutic value of the elements which go into the prescription which he writes. The responsibility is his, not the druggist's; he is the one to assure himself of the value of the ingredients, the druggist is but ancillary. The only way to accomplish this is by specification in prescriptions. It will avoid the Scylla of leading the laity to the wreck of self-prescription, and equally shun the Charybdis of inefficient prescriptions.

CONTINENTAL VIEWS OF ALCOHOL IN THERAPEUTICS.*

BY T. D. CROTHERS, M.D.
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The impression prevails that alcohol is used unquestioned as a drug in all the wine and beer making countries of Europe. A therapeutist and author recently wrote that "only in America and among a few extremists is there a doubt of the value of alcohol as a remedy."

I propose to give a brief review of the revolution of practice and theory concerning alcohol in medicine now going on in Europe. Thirty years ago the general principle of practice was stimulation. Alcohol was supposed to rouse up and support vital forces in disease. Twenty-three years ago the first practical denial was put into a permanent position in a public hospital in London, where alcohol was seldom or never used. At first its use was confined to certain extreme cases, then pure alcohol of a definite strength, reduced in water, was administered. Finally, it was abandoned and is now rarely used, and to-day, after twenty-five years, the hospital statistics show a lower rate of mortality. In 15,224 cases under care during this time, the mortality has been less than 7 per cent., much less than in other London hospitals where alcohol has been freely used. This has been considered a practical demonstration, and has influenced medical theories largely in England.

Dr. Richardson's researches showing the anesthetic nature of alcohol have had a great influence in changing medical practice in England. The result has been seen in the rapid decrease of the spirit bills of public hospitals, and the abandoning of the spirit rations in the army and navy.

On the Continent, a number of scientific workers have published researches confirming Dr. Richardson's conclusions and bringing out other facts as to the action of alcohol on the brain and nervous system. These papers and the discussions which followed have been slowly working their way into the laboratory and hospital, and have been tested and found correct, materially changing current opinions and creating great doubts of the value of alcohol.

In 1876 the prosecution of Dr. Hirschfeld, a Magde-

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burg physician, in the German courts, for not using alcohol in a case of septicemia, seemed to be the central point for a new demonstration of the danger of the use of alcohol in medicine. Dr. Hirschfeld was acquitted on the testimony of a large number of leading physicians from the large hospitals and universities of Europe. It was proved that alcohol was not a remedy which was specifically required in any disease; also that its value was most seriously questioned as a general remedy by many able men, and its substitution was practical and literal in most cases. Statistics were presented proving that alcohol was dangerous and never a safe remedy, and laboratory investigations confirming and explaining its action were given. Since then a sharp reaction has been going on in Europe, and alcohol is rapidly declining and passing away as a common remedy.

The physiologists have taken up the question of the action of alcohol on the body and brain and, curiously enough, a great many have announced themselves as total abstainers and have become very prominent in the condemnation of the use of alcohol, both as a beverage and common drug. Some of these may be mentioned, as Professors Soule and Folel of Zurich, Switzerland; Hersten of Lausanne; Bung of Basle and Schiff of Geneva; McKenzie, Horsley, Gould, Woodhead and others of England. The list of eminent teachers and specialists of Europe who have written against the use of alcohol as a drug, except in some unusual cases, is growing rapidly, and the lists of papers in the *Index Medicus* and the German publications of this class are startling evidence of this change.

The increased action of the heart, with the feeling of warmth and exhilaration which follows the use of alcohol, has always been considered evidence of its medicinal value. The diminution and cessation of pain, with the relief and buoyancy which followed have been interpreted by both laymen and physicians as stimulation. Yet, certain phenomena appeared that were unexplainable. Thus, the depressions of vital force, acute inflammatory states, sudden death from heart failures, profound anemias and other symptoms have been attributed to the quality and dosage of the alcohol. These gave rise to minute studies and directions concerning its use, and cautions as to when and where it should be given. Elaborate experiments were made on the physiologic effect of alcohol on the organism of animals, in the laboratory, the results of which have varied and are unsettled even up to the present time.

It was not until the subject was taken up psychically, and the phenomena were tested and examined by instruments of precision, that the real facts became apparent. Richardson began years ago, and many others have continued the research, and at present a large mass of facts has accumulated, some of which may be stated as follows:

The most common of all symptoms is the increased heart action, which is found to be four thousand beats in twenty-four hours for every ounce of alcohol used. This is found to be, not the outcome of a new force, but the calling into activity of the reserve powers and force of the heart. The heart action normally is the result of arterial pressure and nervous action. The latter is diminished by the narcotic action of alcohol and the former deranged. The flushed face following the increased activity of the heart is due to loss of nerve control, calling into action the reserve heart force. This is clear from the diminished force, measurable by instruments. The more rapid the heart beats, the weaker it becomes, so that alcohol is first an irritant, then a depressant and paralyzer. This is also proved by the symptoms of exhaustion which follow, and muscular measurement. Destree of Brussels concluded, as the result of most elaborate studies, that alcohol on the heart and muscular power has at first a slightly favorable effect, but a very transient one. The heart's force begins to decline at once, depending on the amount of spirits used. The muscular power reaches its maximum in thirty or forty minutes, and after that it is with difficulty kept up. The paralyzing effect increases, and its measurement becomes more and more exact and certain. Literally, alcohol does not supply any new energy to the body, but liberates the existing stock of energy with greater loss and exhaustion.

The action of alcohol on the stomach is physiologic, and not well understood. If in large doses, muscular contractibility is arrested, flaccidity and dilation result. Digestion is interfered with, the food is passed on partially digested and undergoes putrefactive decomposition. Sensation is blunted, and satiety is lost. The action of alcohol on the senses and mental phenomenon has been examined with much exactness. Here instruments of precision yield similar results, and but little difference of opinion prevails. Paralysis of all the special senses follows; the functional activity of the brain is lessened down to complete narcotism. Forel of Zurich has been able to note these changes following the use of 20 c.c. of alcohol. This is the smallest dose the effects of which have been measured. Larger doses and doses taken at regular intervals show this same paralyzing action.

The conclusion that all authorities agree on is that alcohol is always a depressant and anesthetic. So far these anesthetic effects are found to appear very soon after spirits are used, and to follow a certain uniformity of progress depending on the conditions and dose. These facts are being rapidly increased and confirmed by both clinical and laboratory observations. Chloroform, sulphuric ether, chloral and other well-known anesthetics, all exhibit, in an extreme degree, the physiologic action of alcohol.

The value of alcohol in disease has been and is seriously questioned in the minds of many persons. Tradition, social custom, and empiric dogmatism have invested the question with difficulties which, happily, are fast disappearing. A number of authorities have enumerated the diseases and conditions of disorders in which alcohol is counterindicated. This list has now grown to such an extent as to practically include almost every condition of disease and degeneration known. Dr. Clouston is very emphatic in showing the danger of alcohol to all who have suffered from head injuries and inflammation of the brain and other nerve affections.

Professor Woodhead, the Cambridge pathologist, gives the following list of conditions in which it should not be used. In those: 1. Who have any family history of drunkenness, insanity, or nervous disease. 2. Who have used alcohol to excess in childhood or youth. 3. Who are nervous, irritable, or badly nourished. 4. Who suffer from injuries to the head, gross disease of the brain, and sunstroke. 5. Who suffer from great bodily weakness, particularly during convalescence from exhausting diseases. 6. Who are engaged in exciting or exhausting employment, in bad air and surroundings in workshops and mines. 7. Who are solitary or lonely, and require amusement. 8. Who have little self-control, either hereditary or acquired. 9. Who suffer from

brain weaknesses, the result of senile degeneration. 10. Who suffer from organic or functional diseases of the stomach, liver, kidneys or heart. 11. Never to be given to young children and in the adolescent stage.

This list is practically prohibitive of all use of alcohol in medicine. At all events, it indicates that its use must be based on new facts, and on exact application of means to accomplish a certain end. While laboratory researches continue to bring out the anesthetic effects and paralyzing action of alcohol, clinical observations, first of all, show that there are many substitutes and other remedies whose action is equally valuable with that of alcohol. The supposed stimulation is irritation and narcotism. No new force is added, but large demands on the reserve force are made. A new bacterial toxin is added to the blood, oxidation, elimination and digestion are diminished and, finally, seriously and measurably impaired. These facts are accepted as fully established, and the disputed points are in what doses are these effects seen to follow, and are they due to the quantity and quality of the alcohol given? Are they only certain physiologic poison effects, and are different results bound to follow smaller doses given in a certain way? Dr. Frick, an eminent teacher of medicine in Zurich, Switzerland, and Dr. Van Speyer of the University of Berne, have become very prominent in their writings against the use of alcohol in medicine except in rare and peculiar conditions. They have made statistical studies of cases treated with and without alcohol, and have analyzed the effects of spirits as medicinal agents to check and antagonize disease, and assert, very positively, that alcohol is a dangerous and exceedingly doubtful remedy. Dr. Meyer of the University of Gottenburg, Dr. Moeleius of the Medical School of Leipsic, and Dr. Wehberg of Dusseldorf are equally prominent physicians who have taken the same position and are equally emphatic in their denunciations of the current beliefs concerning alcohol in medicine.

These and many other physicians have organized two societies for the study of the alcohol question on the same plan as the English Medical Temperance Society and the American Medical Temperance Society, the only difference being that the two latter societies are composed exclusively of physicians, while the Swiss and German societies comprise laymen, teachers and physicians. A French society, with a large membership of medical men, has been in existence for ten years. These societies have been making total abstinence the central object of their work, to which is added new studies of alcohol, and new theories of its value as a medicine. Both the English and American society have confined their work to the physiologic and therapeutic action of alcohol, while the German, Swiss and French societies have taken up the hygienic, sociologic and statistical sides of the subject.

In Russia, Sweden, Denmark, Austria and Italy, similar societies have been formed, with physicians as leaders and the scientific study of alcohol as the central theme. The result has been that the medical profession has become far more interested than laymen. This is the opposite of public sentiment in England and America. Here the alcohol question and its study is confined very largely to laymen, and to the hygienic and sociologic sides. On the Continent, where physicians are prominent, the physiology, pathology and therapeutics are the leading topics. Revolutions and changes in scientific practice go slow in Europe. A drug like alcohol, which has been in use as a beverage so long, and also as a domestic remedy and supposed tonic and stimulant, can not be changed and driven out in one generation.

Its domestic use in Europe is more strongly intrenched in the customs and prejudices of the people than in this country, but its therapeutic use has never been so firmly fixed in practice as in England and America. For that reason physicians on the Continent have less personal bias to the therapeutic use of alcohol. They are more disposed to question its claims and test its value.

The brilliant discoveries in pathology and psychology have brought out the fact that alcohol, next to syphilis, is one of the most dangerous poisons in its effects on the body. This is rousing new and critical inquiries about the theories of its value in medicine. These reveal the errors of the value of alcohol in medicine. The test of clinical experience confirms the conclusions of pathology and physiology. As a result, Continental physicians are rapidly changing their views of alcohol in therapeutics and questioning the theories on which its use is based. Doubts concerning the place of alcohol in medicine are rapidly increasing in all German schools of medicine, and the physicians are recognizing this change in their practice.

In this country several elaborate experiments have been made treating cases without alcohol, and the results have fully confirmed the theories of Continental physicians. While alcohol is used, and in many cases very freely, there is a critical spirit abroad and the current literature is full of doubts and denials. The defenders of alcohol in therapeutics are disappearing, and reference to spirits as a tonic or stimulant are timidly made and feebly supported in the journals.

The question is very tersely put by Dr. Baere of Berlin, who says, in substance: The time has come for a change of theory and practice concerning alcohol in medicine when modern pathology, chemical and psychologic research, all fail to support the theories on which alcohol is used in medicine. Dr. Lagand of Paris puts the same idea in another form when he says: Our previous conceptions of alcohol and its action on the body are contradicted by clinical experience and chemical experiment in the laboratory." From a pathologic point of view, alcohol is shown to be one of the most insidious and destructive of tissue poisons, and its use is followed by certain cell and tissue degenerations that are uniform in their progress and growth. The theory of a tonic and stimulant value, or a producer or force conserver can not be sustained by any facts that are unquestioned.

The conclusions are inevitable, that alcohol and its theories as a therapeutic drug must be modified, and its use in medicine will change and, no doubt, may be put aside as worthless and dangerous in the near future.

MODERN THERAPEUTICS.*

BY WARREN B. HILL, M.D.
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There is no field in medicine that presents such opportunities for exploration as therapeutics. There is none in which so much work has been done and none where such results may be expected. Therapeutics is being revolutionized. The biologic laboratory has become one of the important factors in the production of our remedies. It not only furnishes us with the various serums and animal extracts now so universally used, but it also affords us a means of standardizing vegetable products so that the very best results may be attained.

The most marked advance in therapeutics is shown

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by its tendency toward rationalism, and while empiricism, pure and simple, is necessarily giving way before the light of reason, we do not underestimate the value of clinical experience, when applied to a working hypothesis. It was but yesterday we were content to study the pathologic conditions in diseases as demonstrated in the dead-room, and the nomenclature of the day is evidence of the fact. We were proud to think we had advanced to that height of rationalism where pathologic conditions were treated wherever found, and the list of diseases treated symptomatically was growing less. To-day we are not contented to study diseases outside of the living body. The pathologic conditions are deemed important, but the all-absorbing topic is the cause of the pathologic conditions. In therapeutics we are content with nothing less than the study of Nature's methods of curing disease in her laboratory, the animal organism.

From our present knowledge we believe that natural resistance to disease is accomplished in two ways; 1, by leucocytosis, and 2, by the production of the specific antidote to the poison produced by the pathologic action of the invading microbe. Drs. Vaughn and McClintock, and others, working on this hypothesis, isolated a substance which is called nuclein, which, in reaction, is identical with a germicidal element which bears a definite relation to the number of white blood-corpuscles. It not only has a positive germicidal action, a .5 per cent. solution being capable of destroying cholera and typhoid bacilli, but it is able to cause rapid leucocytosis, and thus assist Nature in her offensive and defensive campaign against bacterial invasion. In the laboratory the bactericidal action of animal blood has been shown to have increased six times by leucocytosis, and clinical observation has demonstrated that the blood is also materially enriched in red blood-corpuscles and hemoglobin. Clinical observation has also shown nuclein to be of value in tuberculosis, although no startling results have been obtained. In pneumonia, typhoid fever, and other acute and infectious diseases, it has proved a most efficient remedy. In my practice I have found it to be of great value in anemia, and especially in the after-treatment of illuminating-gas poison; and I believe that it has a wide field of usefulness in therapeutics, as a general stimulant to cellular activity in the human body.

The signal success of diphtheria antitoxin led us to believe that before this there would have been many other serums equally as efficacious. We have been disappointed, but the work that is being done now will eventually, I believe, produce this happy result.

Considerable work is being done at present in perfecting antistreptococcic serum, but as yet we have been unable to produce a serum which can be accurately standardized. However, the work of perfecting it is being carried on in this country, as well as in Europe, and through the efficient work of Dr. McClintock, late of the University of Michigan, there has been produced a serum which is giving good results. Last year, in this ASSOCIATION, I made a report[1] of several cases which were benefited by its use, and now I may add that during the past year I have used it in a number of cases of severe facial erysipelas with most happy results in every instance; and in one case, in consultation, recommended it in puerperal infection with equally good results. I will add, however, that I have seen it used in very mild cases of erysipelas where it did not produce any remarkable change.

[1] Journal, Oct. 1, p. 752.

Some progress has been made in regard to tetanus antitoxin. For a number of years this antitoxin has been found to be effectual in the experimental laboratory, but very unsatisfactory from a clinical standpoint. However, recent observations have demonstrated that the pathologic conditions found in tetanus were caused by tetanus toxin uniting with a substance in the nerve-cells. The injection of antitoxin, therefore, into the blood, while it counteracts the toxin there, does not affect this new substance, which causes the peculiar symptoms of tetanus. This has led to the intracerebral injection of antitoxin, the results of which, however, are not as yet very satisfactory, but the work done in this direction has demonstrated chemical action on antitoxins, a question of no small moment in the study of serumtherapy.

The efficacy of glandular extracts is being demonstrated by clinical experiences, and to-day all the knowledge that is being acquired in physiology, chemistry, bacteriology and pathology is being utilized for a more scientific practice of therapeutics. The newer therapeutics is not, in any way, supplanting the old, for we are learning to make more scientific distinctions in the physiologic action of drugs, and applying them to assist Nature in the cure of disease.

When we review the magnificent progress made in therapeutics, and contemplate the possibilities of its investigation in the future, it is surprising that there are so many, in fact that there are any, medical skeptics and nihilists, and I will hail the day when the medical profession shall realize, as a body, that to heal the sick is the acme of their calling.

Clinical Report.

APPENDICITIS WITH GANGRENE AND RUPTURE OF APPENDIX AND CECUM: OPERATION: RECOVERY.

BY HARRY GREENBERG, M.D.
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Sept. 13, 1899, at 11 a.m., I was called by Dr. A. Beyer to see with him Joseph W., 11 years old, who was suffering from what the Doctor diagnosed as appendicitis, having recognized that condition two days previously. The attack came on gradually, the boy complaining of abdominal pains and constipation, alternating with diarrhea for about ten days. When he was first seen by Dr. Beyer, 8 p. m., September 11, his temperature was 100.4, pulse 136; he complained of pain in the right iliac region, tympanites and tenderness all over the abdomen; he passed highly concentrated urine in small quantities, which caused him much suffering.

September 14 the temperature was 103.4, pulse 140. Hot turpentin stupes were applied to the abdomen and tinctura opii camphorata with aconite administered internally. On that night, 11 p.m., while the boy was being moved from bed, he suddenly screamed out and became unconscious, the skin cold and clammy; cold perspiration all over the body; pulse rapid and wiry. Strychnin and nitroglycerin were administered hypodermically and he regained consciousness in half an hour. I saw him in consultation the next morning, when he looked well nourished, seemed to suffer much pain, and respiration was labored and rapid, 60 to the minute; temperature 101.2; pulse 140. He answered questions with difficulty. The abdomen was distended, tympanitic and tender, with

pain in the right iliac region. I diagnosed ruptured appendix with circumscribed abscess. Operation was urged and refused, but four days later consented to. During this period his record was: September 14, temperature 99, pulse 108; September 15, temperature 99.2, pulse 100; September 16, temperature 101, pulse 120; September 17, temperature 102.4, pulse 140. Strychnia sulphate, gr. 1/60, every four hours with hydrarg, chlor. mit., gr. 1/8, every hour, was administered during all these days.

I operated on September 18, at 10:30 a.m. The temperature the morning of the operation was 102, pulse 116. Chloroform was given by Dr. Hogue, the hospital interne. I was assisted at the operation by Dr. A. Beyer and a hospital nurse.

The incision, 1½ inches long, was made over McBurney's point, to the peritoneum, which was found closely adherent to a loop of bowel over the entire length of incision. This was carefully separated and incised. Considerable adhesions of bowel loops were present, forming one contiguous mass, which was with difficulty separated. On palpating the cecum with two fingers, and separating it from some adhesions, a considerable quantity of pus, fecal matter and shreds of gangrenous intestine of the most foul and offensive odor came away —about two cupfuls. With the finger quite a large hole in the cecum could be felt at the point of the once appendiceal attachment, and considerable shreds of gangrenous intestine were loosened and removed. Irrigation with salt solution was employed freely. The condition of the patient and the extensive adhesions prevented further interference. I preferred to do an anastomosis at a later date if necessary. The wound was left open and packed with sterilized gauze. There was considerable pus and fecal matter on the next morning; temperature 102.2, pulse 110. The bowels were moved with calomel and salts.

Irrigation with boric acid solution, twice daily, was employed up to September 30, when discharge of pus and fecal matter nearly ceased. The temperature fluctuated from normal to 99.4. The patient was then anesthetized, the abdominal wound refreshed and closed with deep silk sutures, affording drainage by means of a small rubber tube.

October 7 the wound was found healed by primary union: tube removed; the patient up and about, feeling well. The sutures were removed October 10, and the patient discharged.

545 East Water Street.

Therapeutics.

Forced Dilation of Thorax to Arrest Epistaxis.

The subject sits erect on a chair, places both arms on his head and breathes quietly and as deeply as possible, with open mouth. The veins of the head and neck are emptied of blood by this procedure and the hemorrhage stops. The *St. Petersburg. Med. Woch.* mentions that Fedorowitsch has cured fourteen severe cases by this simple means, all children but one.

Oxygen in Gaseous Septicemia, Diphtheria, Etc.

Thiriar applies oxygenated water and injects oxygen under pressure into the surrounding tissues in the treatment of infections by anaërobic bacilli, pure or associated, gaseous septicemia, tetanus, malignant pustule, puerperal septicemia from retention (after curetting), etc. He considers it superior to all other antiseptic measures even for suppurations, phlegmons, panaris, etc. In one case he arrested a pustula maligna by this means. (*Sem. Méd.*, November 29.) Riegler prefers oxygenated water to antitoxin in the treatment of diphtheria, spraying the throat with a 3 per cent. solution, alternating with insufflations of iodic acid in 10 parts of sugar of milk, every half hour, using a gargle in the intervals: iodic acid .50 gm., dist. water 400 gm., glycerin 25 gm. Cold compresses are applied on the neck and small pieces of ice are given to swallow, to combat the congestion of the throat. He does not use antitoxin except in case of diphtheria of the larynx, or with rebellious children.

Treatment of Hemoptysis.

In an article entitled "The Therapeutics of Hemoptysis," in *Merck's Archives*, Dr Thomas J. Mays, of Philadelphia, says:

Syphilitic hemoptysis finds its antidote in mercury, and the beneficial action of this drug is sometimes very marked. Good results are obtained by giving the corrosive sublimate in 1/20-grain doses every four hours in ½ fluidrachm of syrup of sarsaparilla, or in the following combination:

R. Strychnin sulphatis.....gr. i
Hydrargyrii bichloridi.....gr. i
Pepsini .....gr. xxx
Pulv. glycyrrhizæ, q. s.
M. et disp. in caps. No. xxxii.
Sig. One capsule every four hours.

In antagonizing the rheumatic element in hemoptysis it is not necessary to limit ourselves to the sodium salicylate. A convenient formula is the following:

R. Sodii salicylatis.....ʒiss
Cinchonidinæ salicylatis .....ʒii
Potassii acetatis.....ʒi
Elixir lactopeptin, q. s., ad.....℥iv
M. Sig. Teaspoonful every four hours.

In addition to the above, lithium citrate tablets or alkaline bitter water, like Carlsbad, Marienbad, etc., may be given.

Functional Disorders of the Heart.

In discussing the treatment of palpitation, T. Clifford Allbutt, in his "System," says: "During the attack it consists in recumbency, warmth to the legs and feet, and such stimulus to the abated vagus nerves as ether, ammonia, valerian, smelling salts and hot applications to the cardiac region; remedies which are rather to be recommended than alcohol. Belladonna is also better avoided, and digitalis, if an occasional ally, is not to be trusted."

If there are no acute attacks, but rather the less violent, chronically recurrent form, he advises that the treatment, if "addressed still to the vagi, may well be addressed also to the accelerators, especially if the pupils be dilated and the face flushed, and thereby, excitement subdued. As palpitation, if consisting partly in defect of central control, is nearly always set up by eccentric causes, attention should be paid to the general management, such as regulation of the bowels or other secretions, attention to piles, uterine disorders, or overwork; temperance in food and avoidance of alcohol; moderate exercise, cold baths and regular hours of sleep. At times, such sedatives as aconite and the bromid of soda, ammonia, or camphor, may be needed. Aconite has served us well in many such cases, and its use, cautious as it must be, may yet be more than occasional." Professor Osler says: "An important element in many cases is to get the patient's mind quieted, and he can be assured that there is no actual danger. The mental element is oftentimes very strong. In palpitation, before using medicines, it is well to try the effects of hygienic measures. As a rule, moderate exercise may be taken with advantage. Regular hours should be kept, and at least ten hours out of the twenty-four should be spent in the recumbent posture. A tepid bath should be taken in the morning, or, if the patient is weakly and nervous, in the evening, followed by a thorough rubbing. Hot baths and the Turkish bath should be avoided. The dietetics is most important. It is best to prohibit absolutely, alcohol, tea, and coffee. The diet should be light and the patient should avoid taking large meals. Articles of food known to cause flatulency should not be used. If a smoker, the patient should give up tobacco. Sexual excitement is particularly pernicious, and the patient should be especially warned on this point. For the distressing attacks of palpitation which occur with neurasthenia, particularly in women, a rigid Weir-Mitchell course is the most satisfactory. It is in these cases that we

find the most distressing throbbing in the abdomen, which is apt to come on after meals, and is very much aggravated by flatulency. The cases of palpitation due to excesses or errors in diet and dyspepsia are readily remedied by hygienic measures. A course of iron is often useful. Strychnia is particularly valuable, and is perhaps best administered as the tincture of nux vomica, in very large doses; very little good is obtained from the smaller quantities. It should be given freely, twenty minims three times a day. If there is great rapidity of action, aconite may be tried or veratrum viride. There are cases associated with sleeplessness and restlessness which are greatly benefited by bromid of potassium. Digitalis is very rarely indicated, but in obstinate cases it may be tried with the nux vomica."

TACHYCARDIA.

"The treatment of simple or symptomatic tachycardia," says Joseph M. Patton, in his "Clinical Lectures," "involves the management of whatever influence of toxic, neurasthenic, or reflex nature may act as a cause. These cases are troublesome and apt to relapse. The treatment of a paroxysmal tachycardia is very unsatisfactory. General tonic treatment is necessary in anemic cases. Digitalis is of doubtful value, but may be of service in some instances. Hygienic and dietetic regulations are important. For the attack, morphin may be used in some cases. Vasodilators are contraindicated. Cupping or leeches may be of use where there is pulmonary stasis. Bouveret believes that compression of the pneumogastric in the cervical region is of the most value. Electricity to the precordium, vagus, compression and stimulants have produced slowing of the pulse (Brieger). Poulet recommends coronilla scorpioides, particularly in cases associated with valvular disease. Balfour suggests an ether spray to the cervical spine, or chloroform poultice over the precordium."

Dr. Allbutt, who, by the way, gives us a very good idea of what tachycardia is, when he says that the term may be applied, "not to any case of quick heart, but to the enormous quickening of the pulses of a heart not necessarily the seat of static disease; a quickening which attacks the patient suddenly; which does not persist indefinitely but for a variable space, rounded off by an equally sudden reversion to the normal state, less certain phenomena of exhaustion," speaks of the treatment thus: "Little or nothing seems to be of much service, either in cutting short the attacks or in the prevention of them. The attacks may get less both in number and severity with advancing years; and, perhaps something can be done on general principles to make the system less susceptible to the causes of them, whatever these may be. That they lie in the nervous sphere, the result of tonic treatment seems to indicate. During the attack, the tincture of digitalis in a little brandy is sometimes serviceable. The brandy, I find, is necessary, as in tachycardia the digitalis is especially apt to set up nausea. However, brandy or no brandy, it is often of little use, and patients soon give it up. If digitalis does not modify the rate of the heart, it often causes diuresis; now, in a heart quickened by the failure of intrinsic disease, the drug often fails to produce diuresis, a result of bad prognostic meaning. I recommend compression of the abdomen with a binder, but I think this method has not been well applied; a trained midwife should be engaged to instruct the patient in the proper use of the bandage. Wood's patient was relieved by drinking iced water and strong coffee, as if to arouse reflex inhibition by the vagi. The application of electric currents of this kind or that to the vagi in the neck, however promising at first sight, has disappointed those who have well tried it. Finally, it is said that a compression of the chest by a patient himself, sometimes succeeds in stopping an attack. I have not had a good opportunity of putting this method to trial. It is to be essayed as follows: The patient will thrust his feet as hard as he can against the foot of the bed; then pressing his arms closely against his sides, he will take a long inspiration: next, closing the glottis, he will make a long expiratory effort, thrusting hard the while against the walls of the chest with the upper arms and clasping them with the forearms. In this way, it is said that the rate of the heart may be directly controlled. During the intervals of quiescence, persevering efforts must be made to nourish and invigorate the system. The digestion and excretory organs are to be vigilantly watched and corrected and all means are to be adopted to secure serenity of life and a wholesome and regular occupation. One of my tachycardiacs began to ride a bicycle two years ago, and with much advantage. Oertel's "heart massage" seems to me to be no more than ordinary massage, plus suggestion: but massage is very useful in emaciated or podgy people, and, in the more vigorous, Swedish gymnastics may be cautiously used with advantage. It will be remembered that any overexertion or stress may bring on an attack; the treatment must, therefore, be terminated between the extremes of indolence, and fatigue and sudden effort. A patient who rides the bicycle tells me that in this respect the bicycle is better than horse exercise: the horse may, and often does, make a sudden demand on the rider's nerve. The use of the graduated douche and the wet sheet proves very useful in some cases."

BRADYCARDIA.

Referring again to Dr. Patton, he says of the treatment of bradycardia: "It is purely symptomatic. In cases associated with vascular sclerosis, one may follow Huchard's advice and give nitroglycerin, or the iodids of potash or sodium. In false bradycardia, digitalis and other heart stimulants are indicated. In true bradycardia, digitalis is permissible when the vascular tension is low and the pulse flat or ribbon-like; or, with muscular weakness and high tension, digitalis may be used in connection with the vasodilators. Belladonna will increase the pulse-rate, but should be used cautiously. Douglas Powell advises caffein in bradycardia with scanty urine. In those cases which are associated with myxedema, or which follow Graves' disease, influenza, or diphtheria, the treatment is modified with reference to the previous or associated conditions."

The Injection Treatment of Hemorrhoids.

In the cases of internal hemorrhoids that are thought suited to cure by the injection methods, Dr. Tuttle, of New York, uses the following formula for making his fluid injection:

℞. Acidi carbolici.....ʒiss
Acidi salicylici.....ʒss
Sodii boratis.....ʒi
Glycerini, q. s., ad.....ʒi

M. et ft. solution. Sig. Injection for hemorrhoids. Of this fluid two to four minims are injected into the base of the hemorrhoid. If other injections are needed they are to be made in from three to five days.

Creosote and Ichthyol in Pulmonary Tuberculous Disease.

Dr. Hugo Goldman, in the *Wiener Klinische Woch.*, gives the following formula, by which, he says, the taste of ichthyol is masked.

℞. Creosote carbonat.
Ichthyol, āā.....parts xv
Glycerin .....parts xxx
Aquæ menthæ pip.....parts x

M. Sig. Twenty drops, gradually increased to thirty (for children, ten to twenty), three times a day, in wine or lemonade, after meals.

Chlorosis.

A prescription much in vogue in Vienna, is:

℞. Artemisine
Quassine (crystallized) āā .....gr. i 64
Ferri protoxalat.....gr. iss

M. Ft. capsul. No. i.
Sig. Four such capsules to be taken daily.

The combination of artemisine and crystallized quassine has a powerful tonic influence on the muscular fibers of the alimentary canal and promotes the appetite. The color invariably improves after the ninth to twelfth day.

Dry Menthol for Cough.

H. Dandieu has been using menthol successfully for cough, for the last eight years, and his experience with 148 subjects enables him to affirm its efficacy in spasmodic coughing, asthma and angina pectoris. A few grams of menthol crystals are placed in a wide-mouthed metal or glass jar. The warmth of the hand is sufficient to disengage the dry vapor, which is inhaled for two to four minutes.—*Gaz. Méd. Belge*, November 9.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 23, 1899.

1.—*Physiologic Character of the Pain of Parturition. Samuel M Brickner.
2.—*Observations on Flagellated Malarial Plasmodia. Description of Two Varieties. Charles F. Craig.
3.— Report of Operative Treatment of Several Cases of Frontal and Maxillary Sinusitis. Frank Whitehill Hinkel.
4.— Woman's View of Chickamauga. Helen W. Bissell.
5.— Report of Operations for Radical Cure of Three Unusual Cases of Inguinal Hernia. J. Shelton Horsley.
6.—*Report of Case of Acute Lymphemia or Acute Lymphatic Leucemia. William N. Bradley.
7.— Aseptic Surgery in the Country. R. L. Woodard.
8.— Some Considerations Regarding the Climatic Treatment of Tuberculosis. F. E. Waxham.

Medical News (N. Y.), Dec. 23, 1899.

9.—*Some Observations on Modern Cerebral Surgery. George Emerson Brewer.
10.—*Government Sanatorium for Consumptive Soldiers of the United States Army. Earl S. Bullock.
11.—*Empyema in Infants. David Bovaird, Jr.
12.— Surgical Clinic of Prof. N. Senn. E. J. Senn.
13.— Simple Method for Treatment of Ingrowing Nails: A Clinical Suggestion. George B. Webb.

Boston Medical and Surgical Journal, Dec. 21, 1899.

14.—*Disinfection and Prevention in the Sickroom. Charles Harrington.
15.—*Experiments on Disinfection of Rooms with Formaldehyde Gas, in the City Hospital at Charlottesburg, Berlin. (*Concluded.*) A. W. Fairbanks. Remarks by Prof. E. Grawitz.
16.—*Thyroid Gland and the Menopause. Chauncy R. Burr.
17.— Two Emergency Cases at the Massachusetts General Hospital. Charles L. Scudder.
18.— Clinical Manifestation of a Physiologic Fact. William H. Robey, Jr.

Medical Record (N. Y.), Dec. 23, 1899.

19.—*Account of Some Personal Work on the Mosquito-Malarial Theory, with Remarks on the Present State of the Investigation. William N. Berkeley.
20.—*Submaxillary Part of the Operation for Epithelioma of the Lip. Charles N. Dowd.
21.—*Prevention of Contagious Diseases. Frank W. Wright.
22.— Ligature of First Portion of Left Subclavian Artery for Aneurysm; Death after Four Weeks. F. Kammerer.

Medical Review (St. Louis, Mo.), Dec. 23, 1899.

23.— Hygiene of Pregnancy and Parturition. Garland Hurt.
24.— Animal Cell as a Physical Entity. Albert Miller.

Maryland Medical Journal (Baltimore), Dec. 23, 1899.

25.— Food Problem of Infancy. A. K. Bond.

Cincinnati Lancet-Clinic, Dec. 23, 1899.

26.— Hay-Fever: Its Resorts, Victims and Their Late Conventions; Present Status of the Disease. Julia W. Carpenter.
27.— Genius not a Neurosis. Charles H. Merz.

Philadelphia Medical Journal, Dec. 23, 1899.

28.—*Treatment of Leprosy by Injection of Calmette's Serum Antivene. R. S. Woodson.
29.—*Relation Between Disease of the Kidney and Excretion of the Alloxuric Bodies. C. F. Martin.
30.— Clinical Significance of Fever. O. T. Osborne.
31.—*Experience with the Bottini Operation in Hypertrophy of the Prostate. Leonard Freeman.
32.— Four Cases of Pulmonary Tuberculosis. Philip Daggett Bourland.
33.— Progress of a Case of Phthisis at a Very High Altitude. Maurice Kahn.

Pediatrics (N. Y.), Dec. 15, 1899.

34.—*Typhoid Fever in the Young. A. Jacobi.
35.— Deformity Following Excision of the Knee. Henry Ling Taylor.

American Journal of Obstetrics, December, 1899.

36.—*Fatal Perforation of Uterus Partly Atrophied Postpartum: A Medicolegal Case. C. S. Bacon and Maximilian Herzog.
37.—*Surgical Treatment of Fibromyoma. J. M. Baldy.
38.— Myoma Ovarii; Endothelioma Ovarii; Calcified Corpus Luteum. Fernand Henrotin and Maximilian Herzog.
39.—*Early Diagnosis of Uterine Cancer. Joseph Wiener, Jr.
40.—*Shall We Abandon Ventrofixation of the Uterus? Walter B. Dorsett.
41.— Case of Persistent Fetal Bladder in a Forty-five Year Old Woman. Henry J. Garrigues.
42.—*Rupture of the Puerperal Uterus. James F. W. Ross.
43.— Curette for Cervical Cancer. Howard A. Kelly.

American Journal of Medical Sciences, January.

44.—*Report of Five Cases of Endocarditis Occurring in the Course of Tonsillitis. Frederick A. Packard.
45.—*Tracheal Diastolic Shock in Diagnosis of Aortic Aneurysm, with a Study of the Value of the Tracheal Tug. J. N. Hall.
46.—*Report of a Family Outbreak of Trichinosis. George Blumer and Leo Haendel Neuman.
47.—*Relation of Migraine to Epilepsy, With the Report of Illustrative Cases. Wm. G. Spiller.
48.—*Facial Spasm and Its Relation to Errors of Refraction. E. W. Stevens.
49.—*Cystinuria and Its Relation to Diaminuria. Charles E. Simon.
50.—*Splenic Anemia. William Osler.
51.— Critical Summary of the Recent Literature on Gonorrhea in Women. John G. Clark.

Archives of Neurology and Psychopathology, Nos. 1 and 2, 1899.

52.—*On the Nucleoproteid of the Brain (Cerebronucleoproteid). P. A. Levene.
53.—*Iodin Compounds in the Tissues after Administration of KI. P. A. Levene.
54.— Cranial and First Spinal Nerves of Menidia. A Contribution on the Nerve Components of the Bony Fishes. C. Judson Herrick.

Alabama Medical and Surgical Age (Birmingham), December, 1899.

55.— "Hemorrhagic Malarial Fever." William M. Ryals.
56.— Surgical Treatment of Tuberculosis. Goldsby King.
57.— Treatment of Hypertrophy of the Prostate Glands. Charles M. Franklin.

Pennsylvania Medical Journal (Pittsburg), December, 1899.

58.— Personal Observations on Development of Modern Surgery. Gwilym G. Davis.
59.— Tubercular Arthritis of Knee. J. W. MacFarlane.
60.— Philippine Observations by an Army Surgeon. Geo. D. McIlwaine.
61.— Pathology of Tuberculosis. Margaret P. Forcee.
62.— Antepartum Hemorrhage. W. D. Hamaker.
63.— Uterine Hemorrhage, with Special Reference to Malignant Growths. E. W. Bolton.

Western Medical Review (Lincoln, Neb.), Dec. 15, 1899.

64.—*Treatment of the Pyrexias by Chemical Antipyretics. F. A. Long.
65.—*Operation on Cervical Ganglia of Sympathetic, for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
66.—*Vesicorectal Anastomosis. Jacob Frank.
67.— Puerperal Insanity. Minerva M. Newbecker.
68.—*Further Observations on Treatment of Abdominal Viscera Through Colon. F. B. Turck.
69.—*Stigmata of Hysteria. Byron Robinson.
70.— Inflammation of Duodenum and Resulting Reflexes. F. W. Plehn.
71.— Abortion. (*Continued.*) A. D. Wilkinson.

Denver Medical Times, December, 1899.

72.—*Address of President Rocky Mountain Interstate Medical Association. C. P. Hough.
73.— Attitude of Newspapers Toward Regular Physicians and Scientific Medicine. E. Stuver.
74.—*Importance of Early Diagnosis in Tuberculosis. A. Mansfield Holmes.
75.—*Medicolegal Supervision of Prostitution. Salathiel Ewing.

American X-Ray Journal (St. Louis, Mo.), December, 1899.

76.— Where is the Focus of the Cathode Discharge? William Rollins.

Canadian Practitioner and Review (Toronto), December, 1899.

77.— Heart Disease from an Obstetrical Point of View. Adam H. Wright.
78.—*Spina Bifida. George A. Bingham.
79.— Notes on Ear, Nose and Throat Work, as Taught in Berlin and Vienna. Julius E. Klotz.

Physician and Surgeon (Ann Arbor and Detroit, Mich.), November, 1899.

80.— Laws of Nutrition Should be Taught in the Schools. Charles Douglas.
81.—*Summary of Some of the More Recent Observations on Sensory Nerve-Endings. G. Carl Huber.
82.—*Tuberculosis. Cornelius Van Zwaluwenburg.
83.—*Croup. W. R. Henderson.
84.—*Some Practical Remarks on the Anatomy of the Temporal Bone, with Demonstrations. Emil Amberg.
85.— Dyspnea. C. H. Long.
86.— Some Cases of Brain Surgery. Ira N. Brainerd.

Medical Dial (Minneapolis, Minn.), December, 1899.

87.—*Operation on Cervical Ganglia of Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
88.— Cholelithiasis or Gall-stones. R. E. Cutts.
89.— Osteoplastic Surgery in Serious Compound Fractures. Thomas H. Manley.

Atlanta Journal-Record of Medicine, December, 1899.

90.— Building of Atlanta. Bernard Wolff.
91.— Relation of Board of Health to the City and Medical Profession. R. R. Kime.
92.— Physiologic Therapeutics of Heart Failure. C. A. F. Lindorme.
93.— Conditions Successfully Treated by Electrolysis. M. B. Hutchins.
94.— Different Phases of Electric Treatment. J. McFadden Gaston.

Modern Medicine (Battle Creek, Mich.), November, 1899.

95.— Nerve-Cells in Health and Disease. W. H. Riley.
96.— Report of Three Cases in Which Galvanic, Sinusoidal, and Static Electricity was Used with Curative Results. A. J. Read.
97.— Report of Case of Lead Encephalopathy. L. J. Otis.

Journal of Mississippi State Medical Association (Biloxi), December, 1899.

98.— Variola as I Have Seen It in Mississippi. H. H. Haralson.
99.— Extrauterine Pregnancy. L. A. Murdock.
100.— Crico-Tracheotomy, with Report of Two Cases. J. A. Crisler.
101.— Practical Observance of Asepsis and Antisepsis by Country Surgeons. J. A. Crisler.
102.— Otomycosis of Ear-mold. W. A. Johns.
103.— Two Cases of Amputation of Shoulder-Joint. H. A. Minor.

Journal of Medicine and Science (Portland, Me.), December, 1899.

104.— History and Present Development of Wireless Telegraphy. Greenleaf W. Pickard.
105.— Presidential Address Delivered at Annual Meeting of Maine Pharmaceutical Association. W. A. Robinson.
106.— Present Pressing Need. W. F. Jackman.

[illegible] that we have opened one of the closed serous cavities of the body, and that the danger of infection from any error of technique is as great as in the case of the peritoneum, the pleura, or the synovial sac, and that an infection here is with great difficulty controlled and leads almost invariably to a fatal result.

10. **Government Sanatorium for Consumptives.**—The Fort Bayard Sanatorium, in New Mexico, is here described by Assistant-Surgeon Bullock, who reproduces the regulations and describes the locality. The only disadvantage which it appears to have is in the dust storms which occur, especially in the spring, but only for a short time. He also gives some general remarks on the climate of Colorado, New Mexico, Arizona, etc. While portions of New Mexico and Arizona furnish an ideal climate, they are more expensive than Colorado. He speaks especially of the mental state of patients going to this locality, and says that there is no region on earth, with the possible exception of the North Pole, that can compare with the great Southwest for endemic nostalgia, and if worry is to be added to the patient's homesickness, it is useless for him to go there.

11. **Empyema in Infants.**—The summary of Bovaird's paper is as follows: 1. Empyema is not uncommon in the first two years of life and even in the early months. Of 69 fatal cases, 11 occurred in children under 6 months of age, 40 in those between 6 months and 1 year, and 18 between 1 and 2 years. The youngest patient was 2 months and 19 days old. 2. The mortality during this period is very high. 3. Empyema in infants is very frequently mistaken for pneumonia. 4. The rational signs are the same as those of pneumonia in children. 5. The physical signs can not be relied on for diagnosis. 6. Exploration is called for in every case in which, with the rational signs of pulmonary disease, we find marked dulness or flatness over any part of the lung, especially if accompanied by diminution or absence of voice and breathing or displacement of the heart. 7. Exploration should be made with a large needle, and repeated if necessary. Not any of his cases has ever shown harm from the use of the needle; many have been missed by reason of failure to use it. 8. Practically all effusions in infancy are either purulent from the beginning or soon become so. 9. When pus is found, drainage is called for. Incision in an intercostal space, with the insertion of drainage-tubes, answers this end thoroughly.

during the course of the disease have become contaminated, as so often occurs in the case of children and typhoid cases. 2. If particles of pus, sputum or the like are found around the bed, they are to be removed with cloths dampened with sublimate solution, and burned. 3. All objects in the room are to be moved from the wall, pillows, cushions, etc., laid over the backs of chairs or otherwise so placed that the gas has access to all sides; portieres and side curtains are to be spread so that the entire surface hangs free. 4. The windows are to be tightly closed, and the lamp made ready in accordance with the directions. 5. At the end of twenty-four hours doors and windows are to be opened, dust collected and burned, the room aired and again made ready for use. The advantage of this method over former ones is the higher guarantee of surety of superficial disinfection, the absence of injury to substances, furniture, etc.; the less expense; the non-toxic fumes when diluted, and the rapid disappearance of the odor and destruction of other odors.

16. **Thyroid Gland and the Menopause.**—Burr reports a case of apparent Graves' disease in a woman 56 years old, who had had the symptoms of the menopause. There was a marked hysteric element in the case. He prescribed 2 minims of tincture of belladonna, morning and night, and did not see her for a week, when he was surprised at the very manifest improvement in her condition. There had been, in the beginning of her ailment, an apparent apoplectic attack. Discussing the case, he thinks that probably an over-active thyroid is responsible for the nervous phenomena of the climacteric in many patients.

19. **Mosquito Malaria Theory.**—Berkeley reports some preliminary work during last August, September and October, in examinations for the different species of malaria-breeding mosquitoes. His experiments were confined to the Culex, as he did not find the Anopheles in the region he examined, though he found numerous cases of malaria. His paper is chiefly a contribution to the life history and habits of Culex, which may not be entirely innocent in the production of malaria.

20. **Submaxillary Operations in Epithelioma of Lip.**—Referring first to a former paper, in which he pleaded for exploration of the submaxillary spaces in patients from whom small epitheliomata of the lip were removed, Dowd takes up the subject again and insists on its importance. At least three localities should be examined for lymph-nodes underneath the jaw. They are as follows: 1. The region above the anterior part of the submaxillary salivary gland, where there are regularly two or three nodes and they are the ones most commonly affected. 2. The space under the chin, between the anterior bellies of the two digastric muscles, where there are regularly two or three nodes, and these are the ones next most commonly affected; they are sometimes called the submental nodes. 3. The region beneath the border of the jaw, about the posterior part of the submaxillary salivary glands; the nodes here are less commonly affected. In addition to these three localities, the region of the internal jugular vein should be explored when the submaxillary nodes are decidedly infected. Incisions 2¼ or 2½ inches long should be made. They should be beneath the margin of the jaw. Scars in this region which are parallel with the border of the jaw, show hardly any tendency toward stretching.

21.—See abstract in the JOURNAL of Nov. 18, 1899, p. 590.

28. **Antivenene in Leprosy.**—First crediting Dyer of New Orleans with originality in the use of antivenomous serum in the therapy of leprosy, Woodson reports a case in which he employed a similar treatment, obtaining the serum from the Pasteur Institute, and administering doses varying from 20 c.c. down to 2 c.c. Relief was observed during the treatment, which extended from August 19 to October 17, using 599 c.c. of the serum in 47 injections. The present condition is one of great improvement, and photographs are shown illustrating the change. While he does not as yet claim a cure, he reports the case as one of most probably permanent improvement and a prospect of future recovery.

29. **Kidney Disease and Excretion of Alloxuric Bodies.**—Martin reports experiments made to determine the correctness of Kolisch's theory that uric acid plays a comparatively unimportant part in the manifestations of pure gout while

the formation of xanthin bodies is of paramount significance. He reports his methods, and concludes that there never was, in his case, an actual predominance of the nitrogen of the xanthin bases over that of uric acid. This discrepancy between his findings and Kolisch's he believes can have but one explanation—the error of the methods Kolisch employed. We can not draw conclusions on the power of the kidney to elaborate uric acid simply because there is an occasional increase in the excretion of xanthin bases, and a narrowing of the quantitative ratio between these bases and the uric acid is unjustifiable. Another fact noted is that the percentage of uric acid in cases of nephritis is often very high, which is not in accordance with Kolisch's statement that the elaboration of this product is diminished in the kidneys in their diseased condition. The excretion of uric acid appears to be in no way influenced under conditions that distinctly injure the kidneys, and it is probable that the kidneys are not responsible for this condition.

31—See abstract in the JOURNAL of Aug. 19, 1899, p. 481.

34. **Typhoid Fever in the Young.**—Jacobi's article covers nearly the whole subject of typhoid fever in children. A few points only can be noticed. The severity of the illness need not correspond with the body temperature, which frequently rises and also falls gradually In the last two years he has found more cases of malaria complicating typhoid than he has ever known before. Diarrhea is not to be expected as a common system. It seems to be more frequent in Europe than here, where we miss it in one-half of our cases. Hemorrhage in the very young is exceptional. The circulatory organs are not affected to the same extent as in adults. Pleuritis is comparatively rare. The bones suffer variously; a characteristic increase of growth is sometimes noticed. The nervous system is believed not to be affected as much as in adults. In the treatment, the food should be liquid, and he insists on this point for at least ten days after the disappearance of the fever. The cold and warm baths are the best antipyretics, though the former are sometimes contraindicated. The latter should be the principal treatment, not to the exclusion, however, of such medication as is indicated.

36. **Uterine Perforation.**—Bacon and Herzog's paper is on a medicolegal case of perforation of the partially atrophied postpartum uterus, but the curette; charges of malpractice had been gotten up. The post-mortem was defective, and the authors are inclined to think that the cause of the death was an embolism of the pulmonary artery.

37. **Surgical Treatment of Fibromyoma.**—This article is the report, on this subject, read at the meeting of the International Gynecological and Obstetrical Congress, held in Amsterdam last August. Baldy is an advocate of the abdominal method of uterine extirpation. Myomectomy is only indicated alone when special reasons exist.

39. **Uterine Cancer.**—The early diagnosis of uterine cancer is discussed by Wiener, who recapitulates his article in the following: 1. Cancer of the uterus should be diagnosed with the microscope. 2. Cancer should be suspected in women of all ages—in virgins, in nulliparæ, as well as in multiparæ. 3. Atypical hemorrhages should always arouse suspicion, even at the time of the menopause. The sooner women, at the time of the menopause, are impressed by the fact that the menopause itself is responsible for very few of the symptoms from which so many of them suffer at that time, and the sooner they learn that so many of their sex are losing their lives on account of neglected slight hemorrhages or discharges coming on during or after the menopause, the sooner we may hope to see more early cases of uterine cancer.

40.—See abstract in the JOURNAL of Oct. 7, 1899, p. 914.

42. Ibid., Oct. 14, 1899, p. 981.

44. **Endocarditis and Tonsillitis.**—Packard reports five cases of endocarditis occurring as a sequel or in connection with tonsillitis. In all cases careful inquiry failed to reveal any articular pains, and examination showed no signs of joint trouble. He therefore excludes rheumatism, and holds the cases to be simply acute tonsillitis and pharyngitis, and that the endocarditis is a direct consequence either of the infection of the endocardium, by micro-organisms gaining access through the tonsils, or to structural changes in the mitral valves, due to action of the toxins absorbed from the inflamed tissues. He makes this report to call attention to a grave complication and sequel to a slight primary disorder and to a possible factor in the causation of many otherwise unexplainable cases of cardiac lesion, and also as a sort of collateral evidence of the infectious nature of acute articular rheumatism.

45. **Tracheal Diastolic Shock in Aortic Aneurysm.**—Hall calls attention to a sign hitherto largely unnoticed, and best described by the above title. It is, in brief, the transmission of the diastolic shock originating at the closure of the aortic valve, through the aneurysm to the trachea, and shown by a distinct, sharp impulse following the tracheal tug at the same interval as that between the apex-beat and the closure of the aortic segment. It is so manifest that he is surprised that it has not been before noticed, and its importance is, he thinks, indicated by that of the diastolic shock of the chest wall. He has also examined scores of non-aneurysmic patients with various diseases, without finding one in whom there could be any suspicion of the tracheal diastolic shock or any question of marked tracheal tugging. His opinion, therefore, of a simple tracheal tug as also a diagnostic point, is a high one.

46. **Family Outbreak of Trichinosis.**—The history of an epidemic of trichinosis, occurring in Albany, N. Y., and involving two Italian families, nine persons in all, is reported by Blumer and Neuman. As a result of their study, they conclude: 1. In some epidemics of trichinosis one or more of the most characteristic symptoms may be lacking in the majority of patients. 2. In these the examination of the blood is of the greatest value, as pathognomonic changes are found in it, consisting in an eosinophile leucocytosis, a relative decrease in the neutrophiles, and in many, but not all, cases a decrease in the small mononuclear leucocytes in the disease.

47. **Migraine and Epilepsy.**—The relation of migraine to epilepsy is illustrated by the two cases reported by Spiller, who concludes his paper with the following statements of what is, in his opinion, the proper view of the subject: 1. Attacks of migraine occur associated with nausea and vomiting; this form is known as simple migraine, and usually remains unaltered during the life of the patient. 2. In other cases visual disturbances—hemianopsia, scintillating scotoma, amaurosis, etc.—are associated with the migraine, and the disease is then known as ophthalmic migraine. 3. When paralysis of the ocular muscles occurs with the migraine, the disease is described as ophthalmoplegic migraine. 4. Migraine, especially the ophthalmic form, is related to epilepsy, and the attacks of migraine may precede for many years the convulsive attacks of epilepsy although in most cases of migraine no convulsions are ever detected. 5 In some cases epilepsy appears in the form of one or more of the disturbances seen occasionally with migraine and later even after many years, convulsions develop. The disease may be epilepsy from the beginning. It matters little, with our uncertain knowledge of the pathology of the diseases, whether we regard these as abortive cases—*formes frustés*—of migraine that later become associated with epilepsy—sensory epilepsy—in which the convulsions later become apparent, provided we recognize a relation between some forms of migraine and epilepsy.

48. **Facial Spasm and Errors of Refraction.**—Remarking first on the classification of facial spasms as given by Osler, Stevens reports cases in which examination and treatment of the eyes was undertaken, in some with advantage. He does not attribute, he says, undue importance to errors of refraction as an exciting cause, as many cases can be directly traced to pharyngeal and nasal diseases, and in still others no cause can be assigned. He wishes, however, to emphasize the following points: 1. The refraction and muscle balance should be carefully examined. 2. The refraction should be determined under complete mydriasis and the full correction ordered. 3. It is not sufficient to get rid of the cause, for the nerve centers, having acquired a vicious habit, do not recover their normal condition until systematic treatment has been pursued.

49. **Cystinuria and Diaminuria.**—The literature of cystinuria and its relation to diaminuria are discussed at length by Simon, who adds cases of his own observation, carefully reported and analyzed. He thinks that both conditions are

merely symptoms indicating the general disturbance of the normal metabolism.

50. **Splenic Anemia.**—This affection, usually described with Hodgkin's disease or pseudoleucemia, has not until lately received any wide-spread recognition. Osler reports fifteen cases observed, from the study of which he does not find much to throw light on the nature or origin of the anemia. In all, enlargement of the spleen appeared to have preceded it. Some of its most striking features are the relatively high blood count, the relatively low hemoglobin and the low leucocyte count. He reviews the various conditions which may be confounded with it, such as pernicious anemia, splenic leucemia, Hodgkin's disease with enlarged spleen, various forms of liver cirrhosis, including the bronzed skin diabetic type. He thinks it is entitled to provisional recognition as a disease. The treatment is that of the severe forms of anemia.

52. **The Nucleoproteid of the Brain.**—Levene has carried out experiments and tests as to whether there is a difference between the chromatin of the nucleus and that of the cytoplasm, and whether there is really evidence of more than one nucleoproteid in the cerebral cells. His experiments are detailed, but he does not find evidence of more than one existing. It seems to contain a low percentage of phosphorus and it is also to be inferred from his general results that the chromatin of the cytoplasm does not differ from that of the nucleus. This question, however, he admits can only be fully elucidated by a comparative study of the nerve tissue under different physiologic and pathologic conditions, that is, when the chromatin nearly disappears from the nucleus and is located only in the cytoplasm and vice versa.

53. **Iodin in the Tissues.**—The same author has experimented to find the condition in which iodin occurs in the tissues after administration of KI. His experiments were on hens, which furnish in their eggs at least one organ or tissue on which the changes can be studied from day to day. Iodids were found present in the yolks and white, no iodoproteids in either. The tissues of the hens showed the presence of iodids in nearly all the organs, mostly in the intestinal tracts, probably from nonabsorption, and in the bones. No iodoproteids could be detected in any of the organs. Holmes had found iodin combined with the keratin parts of the hair, and Levene sought to find it in the corresponding elements of the nervous system, but failed. It appears that the same tissue constituents respond differently to ingested iodid of potash.

64. **Treatment of Fevers.**—Long argues for the beneficial effects of antipyretics in fevers, claiming that they will do almost if not fully as much as the Brand method, so much in favor at the present time, especially in typhoid. He finds the coal-tar preparations admissible, if carefully used, and not dangerous.

65.—See abstract in the JOURNAL of Oct. 14, 1899, p. 979; see also title 87, below.

66.—Ibid., p. 976.

68.—Ibid., October 28, 1899, p. 1104.

69. **Stigmata of Hysteria.**—The hyperesthesias and anesthesias, the pareses and paralyses, the exaltation of special senses and localized pains of hysteria are here noted by Robinson. He thinks that the stigmata of hysteria can be recognized as follows: When a rational treatment is systematically carried on against a painful, local disturbance, without effect, the probability is that it is a hysteric hyperesthesia. The excessive vomiting of pregnancy often has a hysteric base—hyperesthesia of the gastric mucosa. In the same hysteria category must often be numbered coccygodynia, coxalgia, irritable bladder, breast, and uterus, vaginismus, pruritus, dysmenorrhea and a sense of lumbo-sacral symptoms. A knowledge of the above factors is particularly valuable to the operator, as the sweeping removal of organs for neuroses or hyperthesia is criminal. Morbid sensibility lies chiefly in the skin, and the patient will complain more of a skin pinch than a deep-seated trauma. What the hysteric coxalgia or hysteric knee is to the surgeon, so is the hyperesthesia of the abdomen to the gynecologist. The puzzle of each solves itself under the analysis for stigmata.

72.—See abstract in the JOURNAL of Aug. 12, 1899, p. 413.

74.—Ibid., Aug. 19, 1899, p. 452.

75.—Ibid., Aug. 12, 1899, p. 413.

78.—Ibid., Nov. 1, 1899, p. 1495.

81. **Sensory Nerve Endings.**—Huber's paper is a summary of the recent data as to the endings of sensory nerves. He points out that: 1. All free sensory endings are the arborizations of the dendrites of sensory neurons. 2. The dendrite of each sensory neuron terminates in a number of arborizations, which may be grouped in a small area or spread over a relatively large one. 3. Although the arborizations of free sensory endings found in the various tissues present differences in shape and size, and the ultimate ends of the branches are not always of the same form and size, yet there is a great similarity between them all. The capsulated endings are described under these heads: the genital corpuscles, Meissner's corpuscles, the end-bulbs of Krause, the Pacinian corpuscles, the neuromuscular spindles and the neurotendinous spindles, on which he has himself made original investigations.

82. **Tuberculosis.**—The most noticeable point in this article is the quotation from Ingals, that 90 per cent. of all people have tuberculosis some time, that 47 per cent. have pulmonary tuberculosis, and 12 per cent. die of it, which the author believes to be a correct statement of the facts.

83.—See abstract in the JOURNAL of Oct. 14, 1899, p. 984.

84.—Ibid.

87.—This paper has appeared as an original in a number of journals, as may be noted by reference to our Index of Titles for the last volume; see also title 65, above.

114. **The Blood in Chorea.**—The blood examination in eight cases of chorea is reported by Murphy, who finds, from their study, and that of the literature, that the blood of a patient suffering with chorea is in the vast majority of cases somewhat deficient in coloring matter and red cells. The anemia is of the chlorotic type, there being a greater proportionate reduction in hemoglobin than in the number of red corpuscles Where grave anemia is present, complications usually explain this. The movements have no relation to the condition of the blood. He believes that anemia is not a direct exciting cause of chorea, and that anemia is secondary to the chorea.

115.—See abstract in the JOURNAL of Dec. 30, 1899, p. 1662.

117. **Operative Appendicitis in the Country.**—Kellogg holds that the country practitioner can operate in urgent cases of appendicitis, and that it is his duty to do so, and he reports a number of cases treated by him in conjunction with other local physicians. He describes his methods of asepsis in private residences. He carries a small steam sterilizer, clears the room of all draperies, sterilizes it with formaldehyde, covering the floor with wet sublimatized sheets and has the operator and assistants wear slippers, stockings and clothing previously sterilized. For headgear he uses a device consisting of a cap with a long bib or cape, which is tucked in at the neck of the gown to confine the beard and has openings for the eyes and nose. For washing he uses green soap, chlorid of lime, permanganate of potash, etc. No carbolic acid, sublimate or formaldehyde is used unless exposed to sepsis. The field of operation receives such preparation as the hands and arms, and hereafter he will use gloves in all septic cases. All sutures, instruments, etc., are used dry. For ligatures he uses aseptic silk, catgut or silkworm gut. He criticises the practices of some San Francisco operators for tending to return to antiseptic surgery, trusting the anesthesia to inexperienced hands in serious cases, shaving and disinfecting the field of operation at the time of operation in non-emergency cases, incomplete or lack of disinfection of the beard, and for the long finger-nails of some operators.

119.—See abstract in the JOURNAL of Dec. 2, 1899, p. 1426.

120. **Croupous Pneumonia.**—Speed disagrees with Osler in his view that pneumonia is a self-limited disease and not influenced by medicine. He finds that the remedy most effective is veratrum viride, and he has not lost confidence in it in a practice of many years.

121. **Circumcision.**—In this article Horwitz argues for the sanitary value of circumcision. He shows that it has a more than mere ritual importance, and says that he has never met with any one who has undergone the operation who has ever had reason to regret it in after life.

FOREIGN.

British Medical Journal, Dec. 16, 1899.

Changes in Central Nervous System in Two Cases of Negro Lethargy: Sequel to Dr. Manson's Clinical Report. FREDERICK W. MOTT.—Two cases of Congo or sleeping sickness in the Charing Cross Hospital last year, with post-mortem findings, both gross and microscopic, are reported by Mott, who discusses the condition and the probable pathology of the disease. In both there was a meningo-encephalo-myelitis, but, with the exception of the lymphatic glands and duodenum, the examination of the viscera revealed nothing noteworthy. Sections of the lymphatic glands showed a lymphocyte proliferation and sections of the duodenum also revealed large numbers of lymphocytes and increase of the size of the lymphoid nodules. Both the clinical history and the morbid appearances, the author remarks, point to a chronic process. It only affects negroes in West Africa and it is there, though not exclusively, that we find the Filaria perstans. Mott considers the evidence, however, insufficient to make this the cause of the disease. Some authorities have thought that it might be due to bad food, thus resembling pellagra and lathyrism. He admits that this is not altogether unlikely, and it may be that there is an infectious organism for which we have as yet no staining test. The negative results in these cases do not disprove this. He explains the symptoms of the disease by the meningo-encephalitis, and questions whether there may be a relation to general paralysis with original syphilis, but does not find the nerve-cell changes nearly as great as in the latter disease, while the inflammatory condition of the vessels is much greater. This offers to his mind a strong argument in favor of the theory that general paralysis is a primary degeneration of the neuron, with secondary inflammatory changes. He finds, by examination of specimens sent him by Dr. Stephen Mackenzie, of sections from a case under his care, the same microscopic changes in the nervous system as existed in these cases, and thinks it therefore highly probable that a meningo-encephalitis is a constant lesion in this disease. (See JOURNAL, Feb. 26, 1899, p. 326.)

Lancet, Dec. 16, 1899.

Calculus in Ureter. HENRY MORRIS.—The character, diagnosis, symptoms, prognosis, pathology, effects and operative treatment of ureteral calculus form the subject of this paper, by Morris. He tabulates forty-six cases and as evidence of the difficulty of diagnosis, only in very few of them had an accurate diagnosis been made before the operation. The prognosis as regards the kidney is bad; as regards life, it depends on the health of the corresponding organ. As regards operation, he thinks that in a great majority of cases a lumbar operation will be the correct practice. It is safer to remove the stone by an extraperitoneal than by a transperitoneal operation, even when its existence and location have been determined by an intraperitoneal search. If it is uncertain in which ureter the stone is, it is better to examine it through a lumbar incision than by a laparotomy. If the stone can not be displaced upward or downward into the bladder or kidney, it may have to be left for a time, for nothing should induce the surgeon to incise a ureter through the peritoneum, unless he is absolutely sure of the aseptic state of the urine. He should close the peritoneum then and there, and remove the calculus by the retroperitoneal route, or postpone the removal until the patient has recovered from the laparotomy. In all cases the calculus should be displaced by greater pressure upward, and removed through an opening a little away from the point where it has been lodged, as the coats are likely to be more diseased at that point and will not undergo repair as well. He makes this a specially important point. Extraction of a stone impacted in the vesical pouch should be effected per urethram in the female, and by perineal or suprapubic cystotomy in the male, but the former should not be performed unless the patient is very thin and the pelvis shallow.

Early vs. Late Operations in Cases of Inflamed Appendix. C. MANSELL MOULLIN.—While remarking that early operation for appendicitis is advised by American and German authorities, but not in general favor, apparently, in England, Moullin notices that the two recognized English authorities, Hawkins and Kelynack, are not in favor of delay, but rather the reverse. Moullin argues in favor of early operation, and says that if in a case of inflamed appendix, thirty-six hours have passed without definite improvement having showed itself, the responsibility for the consequences must, it seems to him, rest with those who recommend that the operation should not be performed.

Surgical Treatment of Ascites of Cirrhosis, by Artificial Production of Peritoneal Adhesions. H. D. ROLLESTON and G. R. TURNER.—In this paper a brief account of two cases of cirrhosis with ascites, treated by the method introduced by Drummond and Morrison, are reported, and the technic and *rationale* of the operation discussed. The authors advise the stitching of the omentum, liver and abdominal parietes together, as the most effective method of obtaining vascular adhesions. As regards suprapubic drainage, they believe it necessary when there is a large amount of fluid present and when it has rapidly accumulated after repeated tappings. They think it probably unnecessary to hasten any operation for the removal of the spleen, as in their successful cases it markedly diminished in size after the operation. As regards its *rationale*, they are inclined to agree with Morrison and Drummond that the disappearance of the dropsy depends on collateral circulation relieving the pressure in the portal veins.

British Gynecological Journal (London), November, 1899.

Backward Displacements of Uterus. ARTHUR E. GILES.—The conclusions arrived at in this paper may be summed up in the following propositions: 1. Retroversion of the uterus requires no treatment when it causes no symptoms. 2. A simple retroversion may cause symptoms by disturbances of circulation, by pressure, or reflexly. 3. Pressure symptoms are uncommon in the absence of enlargement of the uterus. 4. Reflex disturbances are most frequently gastric, vesical or nervous. 5. A simple retroversion can usually be cured by the temporary use of the pessary. 6. Retroversion with endometritis is frequently complicated with prolapsed ovaries. 7. In the treatment of this condition, the inflammatory condition must be cured before the introduction of the pessary. 8. Pronounced endometritis requires curetting, with trachelorrhaphy in some cases before the displacement can be dealt with. 9. When retroversion is associated with fixation by adhesions, the first step must be to restore the mobility of the uterus. 10. To introduce a pessary in a case of retroversion with fixation is to add risk to inefficiency. 11. When milder measures fail, the abdomen should be opened, the adhesions separated and the uterus fixed in its proper position. 12. In the absence of adhesions, hysteropexy is sometimes required to cure an intractable retroversion. 13. Retroversion of the gravid uterus is usually reducible with the help, in some cases, of an anesthetic. 14. In cases of irreducible retroversion, it is usually better to free the uterus by abdominal section than to terminate the pregnancy; but in some cases the induction of abortion will be necessary.

Journal of Laryngology, Rhinology and Otology (London), Dec., 1899.

Contagiousness of Acute Suppurative Inflammations of Middle Ear. MARCEL LERMOYEZ.—The author briefly reports observations that strongly point to the contagiousness of suppurative otitis, and which he thinks are more than mere coincidences. The contagion takes place, he believes, through the nasotubal route, and what his observations tend to prove is, that given a patient affected with influenza complicated with otitis, any other influenza patient put in contact with him will run a great risk of also acquiring the latter. He has inquired among his colleagues in Paris hospitals, as to their experience, and learned from M. Descroizilles, who has charge of the ward for measles in the Children's Hospital, Paris, that out of every 100 in this ward, there are about twenty cases of otitis, while in private practice they do not exceed 1 per cent. M. d'Heilly, in charge of the scarlet fever wards, observed 14 per cent. of otitis in his patients, a proportion which rose to 25 per cent. when he ordered the systematic practice of nasal irrigation. In private practice he sees immunity in [illegible] of it. This and other testimonies show him the danger of aggregation. One practical conclusion to arise from his study, namely, that the patients, especially children, affected with acute median otitis should be isolated, even if the [illegible]

primary, and still more if it is a secondary complication of an infectious disease.

Intercolonial Medical Journal of Australia (Melbourne), Oct. 20, 1899.

Origin of Sex. ARTHUR FREDERICK DAVENPORT.—The theory here advocated by Davenport is that the sex of the child is determined at the moment of conception, and is the opposite of that of whichever parent is at that moment in relatively the most vigorous health. He has tested this theory on dogs, with success, and has had observations made in cattle, with testimony in agreement with his own experience. He has had a number of families under his care, in which the observations made seemed to support his theory, but for obvious reasons he does not give the full details. Out of some 39 cases, there were 32 successful predictions. In concluding his paper, he reviews the theories that have been advanced, and he believes it is possible that in nearly every instance the essential condition of relative health may be, for the time, swayed in one direction or the other by the physician, sufficiently to determine whichever sex he may desire to produce.

La Gynecologie (Paris), Nos. 1 to 4.

A Common Cause of Sterility in Women. V. C. LEFÈVRE.—Among the numerous causes of sterility in women there are some which individually render fecundation impossible, and others which only prevent it by their combination. One of these combinations is a pathologic complexus which Lefèvre states he has found sixty-six times in eighty-four cases of sterility. Catarrh and endocervicitis of the cervix are associated with stenosis of the external orifice, acute anteflexion and deep posterior colpocele, while the vaginal portion of the uterus projects as a long cone into the vagina. Each of these lesions depends on and is subordinate to the rest, and treatment is only effective when each is integrally cured. The endocervicitis requires curetting in mild cases, and amputation of the cervix in case of obstinate lesions of the endocervical mucosa. If there is a very pronounced cone or stenosis, Schroeder's method must be followed to provide the cervix with a wide external orifice for the ready reception of the semen. Anteflexion is treated by gymnastic exercises for the uterus, by means of repeated dilation with laminaria. If the flexion threatens to recur, it can be prevented with a pessary or precervical colporrhaphy. Doléris makes a triangular raw surface for this purpose then draws the lips of the wound together to make a three-pointed star, which takes up the relaxed fold. A deep posterior colpocele requires retrocervical colporrhaphy. By this series of operations the uterus and vagina are restored to normal shape and permeability, and the pathologic secretions which have depressed the vitality of the spermatozoa are abolished. Straightening the uterus restores vigor to its muscular and vascular system, and enables it to act effectively at the proper moment. Shortening the posterior cul-de-sac makes the vagina smaller and suppresses all false routes. Sixty observations are appended; ages 20 to 45. Forty-nine were treated as outlined above and twenty-four of the thirty-one followed to date—79 per cent.—have since become pregnant. He mentions that seven were ultra-nervous women. Curetting and discission of the cervix answered the purpose in a few cases.

Presse Medicale (Paris), Dec. 6, 1899.

Alcohol, Disease, Death. JACQUET.—This report of a committee appointed to study alcoholism, in the hospitals of Paris, is a moving appeal to the profession to emulate the example of Magnus Huss, the Swedish confrère, whose writings aroused public opinion in the Scandinavian countries until the effective measures now in operation were adopted. Jacquet calls it "the foremost social duty of our day," and states that we have to combat medical and administrative alcoholization, as well as the great public alcoholism. He urges omitting from our prescriptions every alcoholic preparation that is not strictly necessary: "What is the use of all our medical studies and research if we terminate in being merely automatic dealers in this or that wine of quinquina, coca, kola, etc?" By "administrative alcoholization" he refers to the enormous quantities of "grog" dispensed in the hospitals. In 1893 it amounted to 50,126 liters; in 1898, 37,790 liters. The amount of red wine supplied was a little over three million liters in the same years: champagne, 2,570 pint bottles in 1888, and 25,008 in 1894. The nurses and internes receive a large proportion of this grog: male nurses about 1 2/3 ounces a day, and the internes 2 3/7 liters a month, and in the infectious wards even more. A circular setting forth the dangers of alcohol, dispelling the popular delusions concerning it should be handed to each patient as he or she is dismissed. Another measure proposed is that each hospital should have a room set apart for the attendants, with games, magazines, books, etc., to render it attractive, so they will not seek the saloon in their leisure hours; also that medical students should be fully instructed in the dangers of alcohol as the most effective propaganda for the future. Jacquet states that in the London Temperance Hospital, where alcohol is rigorously excluded from medical and surgical therapeutics, "the statistics defy all comparison." Of the 4744 patients in the various hospitals of Paris 1405 are alcohol drinkers; 23 per cent. among the out-patients and 45.93 per cent. among the hospital patients, which proportion is in itself significant. Among the 252 phthisics 180, or 71.42 per cent., were alcoholics before the appearance of any symptoms of the disease. (Constan, Barbier and Jacquert have observed a still higher proportion in their practice, 88 to 90 alcoholics in 100 phthisics.) Six of the eight patients under treatment for cancer are alcoholics.

Archiv. f. Experimentelle Pathologie u. Pharm. (Leipsic), xlii, 2.

Asphyxia As a Tonic for the Heart. G. N. DURDUFI.—"In certain circumstances asphyxia is an important means of reviving the action of the heart. Animals with beginning paralysis of the heart, induced by experimental intoxication, can be restored to almost normal conditions by interrupting the respiration for a minute or two. The blood-pressure rises and the pulse increases in amplitude and volume. They can thus be saved by transient asphyxia." On the foundation of much experimental research Durdufi recommends asphyxia for man as an analeptic and especially as a tonic for the heart. Lauder Brunton called attention some time ago to the practice current in India of covering with the hand, the mouth and nose of a person in a swoon, as the best means of reviving him. Durdufi suggests that this therapeutic asphyxia may produce a tonic effect on the heart and vascular system, by the accumulation of CO_2 in the blood, and also produce favorable conditions for the action of the substance in the suprarenals, which raises the blood-pressure.

Berliner Klinische Wochenschrift, Nov. 27, 1899.

Substitutes for Alcoholic Drinks. F. HIRSCHWALD.—Analysis of "frada," a typical specimen of the class of slightly effervescent acid drinks made from fruit juices, grape and cane sugar, showed that there was no alcohol in it, but the proportion of sugar and fruit substances is so large that a bottle represents a considerable amount of nourishment—10 grams of sugar—altogether too much to recommend freely to healthy, well-to-do persons who already take too much nourishment as a rule, with deficient exercise. On the other hand, such drinks would prove a useful adjuvant in conditions of debility from any cause in which superalimentation is indicated, in renal troubles, fevers and nervous troubles. Hirschwald adds that "alcoholless beer" can be rendered more palatable by the addition of a little Pilsener.

Vaginal Laparotomy. DUEHRSSEN.—The writer concludes his latest monograph on this subject, saying no one can reproach him with allowing an operation rich in blessings to be discredited by his silence in respect to its advantages. He has performed vaginal laparotomy 400 times in the last eight years, on account of retroflexio uteri. Vaginofixation is superior to ventrofixation, he states, as it is less dangerous; there is no chance for ventral hernia, nor adhesions of omentum to the abdominal cicatrix, nor of ileus; less dread of the operation on the part of the patient; and much less subjective post-operative discomfort. Intraperitoneal vaginofixation ensures normal anteversion. It requires skill on the part of the operator, and possible failures due to the operator's technic should not be ascribed to the method. He has also performed anterior colpocleiotomy for vaginofixation of the round ligaments, for vesicofixation of the retroflexed uterus, tubal pregnancy, extirpation of benign uterine growths and ligating the tube for the purpose of ensuring sterility. Fifteen died out of 503 thus operated on; six out of 358 cases of retroflexio uteri treated by vag-

inofixation. Since 1895, when he slightly modified his technic, pregnancy has not been interfered with in any case.

Centralblatt f. Chirurgie (Leipsic), Dec. 9, 1899.

Control Test for Sterilizers. STICHER.—None of the numerous methods of testing the sterilization of articles used in surgery have proved sufficiently simple, inexpensive and free from other objections to ensure their general adoption. Sticher proposes to use a little durable glass tester like a thermometer, and has devised for the purpose a glass cylinder 9 cm. long and 1.8 in diameter, with double walls and space between and a central oval space filled half full of phenanthren, a cheap substance which melts at 98 C. The thickness of the walls prevents it melting in less than ten minutes at this temperature. Placed in the sterilizer, the phenanthren will melt and slide down into the lower half of the central space after exposure to 98 C. for ten minutes. With compressed steam sterilizers pyrocatechin, which melts at 104 C., can be used instead of phenanthren. The tester is withdrawn by a string in a loop at one end.

Centralblatt f. Bakteriologie, etc. (Jena), Nov. 16, 1898.

Different Behavior of Certain Micro-Organisms in a Colored Nutrient Medium. A. CESARIS-DEMEL.—The bacterium coli renders liver bouillon turbid in six hours, with much gas formation, and this turbidity persists for several weeks before a precipitate forms. The typhus bacillus, on the other hand, merely renders the medium turbid in spots, like flakes, which sink to the bottom leaving the medium clear and transparent in one to two days. This is in itself an important means of early differentiating the typhoid bacillus, but if litmus tincture is added to the liver bouillon until a lavender color is produced, the differentiation is still more marked and complete, as these and other micro-organisms alter this color in a manner specific for each. The bacterium coli forms bubbles and turns the medium red in twenty-four hours, for one day, after which the medium is decolored for two days and then gradually resumes its original lavender color, extending from the surface downward till complete the tenth day. The typhoid bacillus, on the other hand, forms no gas, decolors the medium the second day, but by the third the medium has become entirely and permanently pink, with a red precipitate by the tenth day. The icteroid bacillus turns the medium permanently pink the second day with gas for twenty-four hours. The cholera vibrion behaves very much like the typhoid bacillus, but each of the eleven micro-organisms tested has a special behavior that differentiates it from the rest in a day or so. The difference is most marked between the bacterium coli and the typhoid bacillus, especially in the later phases, but is less noticeable between anaërobic cultures. The arrangement, shape and color of the precipitate are also specific for each variety. These stained sediments were all sterile by the fifteenth day. Tinted plates accompany the original, portraying the exact shades and changes.

Streptothrix Nature of Diphtheria Bacillus. W. SPIRIG.—Some pure cultures of the diphtheria bacillus, left unmolested and protected for a year and more, showed a growth of mycelium around the colonies, which cultivated on Loeffler serum as a streptothrix; on bouillon and agar as non-virulent short rods. "This fact establishes the streptothrix nature of the diphtheria bacillus and that the so-called diphtheria bacillus is merely a phase in the development of a streptothrix—actinomyces—the virulence of which seems to depend on certain unknown conditions."

Does Normal Horse Serum Contain Diphtheria Antitoxin? L. CORBETT.—The experience of the writer, with fourteen horses, answers this question in the affirmative and that the neutralizing substance found in an actual antitoxin. But he notes that it is not necessarily a normal constituent of the serum. It is entirely absent in certain horses, and may be due to some ignored diphtheritic process, or to some influence exerted on the organism by the diphtheria bacillus as a harmless saprophyte vegetating in the alimentary canal.

Centralblatt f. Pathologie (Jena), Oct. 15 and Nov. 20, 1899.

The Nerve Cell According to the Latest Research. O. BARBACCI.—It seems to be now generally accepted that when an injurious influence affects a nerve-cell, if it is so powerful that it rapidly kills the cell, the microscope will only disclose the typical signs or cell-necrosis. On the other hand, if the action of the morbid cause is less violent, the cell first reacts with energy against the abnormal excitation and in this effort of reaction, consumes its reserve of nourishment, the chromatic substance stored in the cell, in readiness for such emergencies. Chromatolysis is thus merely the expression of a process of reaction. It is not a phenomenon directly connected with any special morbid agent affecting the cell, and can not be anything else than the more or less rapid using up of the chromatic stores during the manifestation of the functional activity of the cell. If the morbid excitation subsides during this first phase, then the alterations in the cell proceed no further, and it returns more or less promptly to its normal condition and replenishes its supply, still retaining its functional capacity unimpaired. This explains the frequently striking contrast between the anatomic findings and the clinical symptoms of many affections. During the development of a disease the nervous system may not have revealed its suffering condition by any symptom, and yet its elements are found affected by extreme chromatolytic processes. This occurs frequently in acute infections and autointoxications. But when the morbid cause continues its deleterious action on the cell, degeneration ensues after all means of resistance have been exhausted; the cell is doomed and dies in time. Barbacci concludes this comprehensive review of 418 communications in recent literature by stating that it is still too early to speak of a pathologic anatomy of the nerve-cell, but that improved technic has brought it nearer, and points the way for future important research.

Monatsschrift f. Ohrenheilkunde (Vienna), November, 1899.

Can a Defect in the Tympanic Membrane Induce Sudden Death in Bathing? F. DANZIGER.—Lucae formerly reported that patients with a defect in the tympanic membrane experienced vertigo, etc., when a movement wave was started in the labyrinth by a sudden jerk, which was then propagated through the aq. cochleæ to the cerebrospinal fluid, spending its force against the base of the brain. Similar to this is the experience of a patient of Danziger's with a defect of this kind who was swimming on his back. As his ear filled with water he was suddenly overcome with vertigo, compelling him to leave the water at once. The vertigo persisted for a day or so, until the water that had entered the tympanum was withdrawn through a catheter. It seems probable that many sudden deaths from drowning have been due to this hitherto unsuspected cause.

Connection Between Laryngitis Sicca and Pregnancy. G. AVELLIS.—The writer has had occasion to observe six cases of typical dry laryngitis appearing and recurring with later pregnancies, in the second to the fourth month, vanishing in the interim. He relieved his cases by spraying with warm, fluid, mentholized vaselin and recommending hot soups and drinks. He warns against astringents and curetting.

Muenchener Medicinische Wochenschrift, Dec. 5 and 12, 1899.

Disinfection of the Hands. T. PAUL and O. SARWEY.—The writers have entered on a series of tests of the various methods of disinfection in vogue, under absolutely sterile external conditions. The hands and forearms are inserted through holes made for the purpose in each wall of a zinc box 50 cm. square with a glass cover. The box contains basins for hot water, sand, curettes, and sticks for scraping the hands, and a large number of dishes and test-tubes all ready to be inoculated with the scrapings. Before the tests the entire box is sterilized, with air-tight covers over the short cylinders through which the arms are passed.

Kuester's Osteoplastic Mastoid Operation. PASSOW.—The JOURNAL, vol. xxxiii, p. 1608, reviewed the operation described by Kuester in the *Cbl. f. Chir.* of October 28. Passow protests against his derogatory remarks in regard to the "disfiguring depression that usually follows operation by other methods," and claims that a skin flap is sufficient covering for even a large defect at this point, and that by leaving the defect open for a while, post-operative conditions can be supervised much more satisfactorily, with the possibility of further intervention if needed. With Kuester's method this would require the raising of the bone flap, and nearly all his published observations mention the "persistence of a slight discharge."

Syphilis of the Aorta As a Cause of Aneurysm. A. HELLER.—Koester and others have described [illegible]

aorta, noted at necropsies, but failed to recognize the connection with syphilis, to which Heller now calls attention. The walls of the aorta are studded with small depressions with shrivelled sides and vicinity, appearing on the outside as small protuberances the size of half a hemp seed to half a bean. The microscope shows the various stages of the process terminating in these protuberances: the elements of the media are destroyed and vanish before the invasion of numerous neoformations which appear in spots or generalized, frequently following the course of the *vasa nutritia*. The media gives way before them, or yields to necrosis in the intervals, which thus become thinner and bulge out, the intima and the adventitia adhering. These changes are similar to what is observed in other organs in syphilis; focal or diffuse proliferation with many cells, frequently polynuclear giant cells, leading to necrosis and transformation into shrivelled connective tissue and corrugated scars. This lesion suggests an obvious etiology for aneurysms, but at the same time, opens a promising prospect for specific treatment from which we may not only expect the arrest of the process but promotion of the cicatricial corrugation and thickening of the wall at the affected points, which will increase its resistance to the blood-pressure.

Transplantation of Skin Flaps Without a Pedicle. REUTER.—Krause's method of flap transplantation has many advantages over the Thiersch flap, in case of infected wounds, chronic ulcers, etc., but its chief superiority lies in the fact that it becomes transformed into strong cicatricial tissue, while the Thiersch flap retains its sensitiveness and seldom or never grows thick. Another advantage is that flaps without a pedicle—in Reuter's experience—have grown and enlarged with the growth of the child. Cicatricial contractions of the joints are especially benefited by transplantation of these flaps without a pedicle.

Three Gastro-Enterostomies, One Resection of the Intestines and Two Entero-Enterotomies Performed on One Patient: Recovery. H. KEHR.—This unusual observation demonstrates that failure of one operation need not deter from another attempt. The patient was a young woman with a history of five years of symptoms evidently due to an old ulcer in the stomach; extreme myasthenia. The *circulus vitiosus* soon followed the first operation, which was a Hacken posterior retrocolic gastro-enterostomy, and it was supplemented by a Braun entero-enterostomy. The vomiting of bile reappeared in a few weeks. Woefler's anterior gastro-enterostomy was then done and worked finely for a few months, when the *circulus vitiosus* was again evident and in an aggravated form. Opening the abdomen again with a right-angled incision, a "chaos of adhesions" was found and, detaching them down to the stomach, it was discovered that the opening in the Woelfler intestinal loop had become entirely obliterated, while the first posterior gastro-enterostomy was still working, although defective. A Roux-Woelfler gastro- and entero-enterostomy was then made and the abdomen closed after having been open two hours. The patient made a smooth recovery and has gained 8½ pounds in the twenty-five days since.

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), vii, 2 and 3.

Death from Fatty Embolism After Orthopedic Interventions. E. PAYR.—Three more deaths from fatty embolism after apparently insignificant orthopedic interventions have occurred at Nicoladoni's clinic at Graz, and Eberth has lately reported a similar case, besides the five previously on record. Payr finds that they can be classified as cerebral and respiratory embolisms. In the former the sensorium was first agitated, passing into coma, with dyspnea and cyanosis only in the last stages. With the respiratory form the sensorium was undisturbed, and the symptoms all pointed to the lungs, which had been congested and altered by months of confinement to bed, rendering the capillaries in the lungs less elastic. In the four at the Gratz clinic there was pronounced status thymicus. The persistent thymus in adults is not the cause of death, but is merely one symptom of that general condition of disturbed nutrition characterized by enlarged tonsils, enlarged follicles at the base of the tongue, enlarged spleen, persistent thymus, vascular anomalies especially notable in the narrower aortic system, etc. Paltauf lays the greatest stress on the condition of the heart, noting in such cases a fresh hypertrophy and granular degeneration of the tissues. Abnormal nutrition and disturbances of the heart action lead to altered conditions of pressure in the circulatory system, which in turn produce such changes in the cardiac nerve-centers that the heart, under the influence of violent excitations or inhibitions, may suddenly become incapable of continuing its functions. Ortner announced that the clinical course and prognosis in a variety of affections may differ widely with status thymicus from the ordinary picture, as has since been effectively demonstrated by many deaths during narcosis. Obstruction of extensive capillary regions in vital organs may also produce the same effect, and fatty embolism therefore takes rank as the fourth occasional cause which may induce death by altering the conditions of the circulation in peculiarly susceptible persons. The status thymicus affords conditions which may render fatty embolism fatal, while in ordinary conditions it would pass unperceived. Death is not immediate in these cases, but follows a period of gradual obstruction by repeated arrivals of fatty particles. In respect to the prophylaxis, Payr observes that possibly the status thymicus may be recognized aside from the familiar criteria of the enlarged lymphatic apparatus of the upper air-passages, by the amount of hemoglobin in the blood, which Paltauf states is subnormal. But there is a wide field for prophylaxis in another line, that is, in avoiding forcible orthopedic interventions of all kinds, and substituting gentle measures. He illustrates a simple lever and plaster cast contrivance with which he reduced, in a few weeks, a connective-tissue ankylosis of the knee, of 110 degrees, by gentle gradual pressure alone. He also noted that the extent and intensity of fatty embolic processes are in direct proportion to the size of the bones and the duration of the affection entailing the deformity that requires correction.

Gazzetta Degli Ospedali (Milan), November and December, 1899.

Radical Cure of Hemorrhoids. A. CECCHERELLI.—Modifying the usual Whitehead method, Ceccherelli takes great pains to leave the anus intact and as much of the sound tissue between the nodules as possible, making a number of small scars instead of a single large one, and suturing the wound after each excision at once, to forestall hemorrhage. By this means the elasticity and contractility of the lower portion of the rectum is retained and strictures prevented.

Combination of Serum and Sublimate in the Cure of Diphtheria. D. D'AFFLITO.—In a severe epidemic of diphtheria at Crucoli, D'Afflito had occasion to treat 104 patients. Two died from syncope forty-five days and fifteen days after recovery; one from paralysis of the heart the seventh day of the disease, and the fourth from bronchopneumonia two weeks after recovery from severe croup. Five cases were treated with Behring's serum and ninety-nine with local applications of sublimate, painting the throat morning and night with a .5 per cent. solution of corrosive sublimate in equal parts water and glycerin. The first application was made with a cotton wad with which the false membranes were gently removed: after this it was applied twice, each time with a fresh wad. Lactic acid at 2 per cent. was used as a spray or gargle during the interim. Two deaths occurred with each method of treatment, four in all. D'Afflito proclaims, as the result of this experience, that the ideal treatment of diphtheria consists in the associated serum and sublimate treatment. Either alone may cure, but in case of severe diphtheria "exclusivism is imprudent," especially as mixed infection is frequent in these cases.

Physiopathology of Olfactory Nerves. V. GRASSI.—The local or general morbid states that affect the nervous apparatus of the sense of smell are more numerous than generally supposed, and Grassi urges further research in this line, as the neuroses of the sense of smell deserve attention on account of their frequency and relative gravity and the relations that may exist between them and rhinology and even general medicine. He proposes as a test, an alcohol solution of benzoic acid, 1 to 5; ten drops poured on a disc of blotting paper 5 cm. in diameter. Ten square cards, the thickness of visiting cards, are then placed over the disc, with a hole in the center of each varying from 5 to .5 cm. A glass funnel 5 cm. in diameter and 10 cm. long is placed over the concentric holes in the cards, and the subject breathes once through the funnel. If he

perceives the odor of the benzoic acid, his sense of smell is normal; if not, he removes cards until he does perceive it, unless he is anosmic.

Resistance of Tubercle Bacilius to Desiccation and Putrefaction. G. LUCIBELLI.—The research here reported established that tubercle bacilli in sputa dried on glass had lost their resistance in eighteen days, exposed to diffused light, but retained it for sixty to eighty days in the dark. Bacilli in putrefied sputa kept in diffused light in a fluid were extremely resistant, still virulent four months later, after which time they became gradually attenuated; this change commenced more rapidly in glass tubes with fused ends than those plugged with cotton. The attenuated bacillus did not regain its virulence when inoculated from one guinea-pig into another. The bacilli, when scanty in sputa, lose their staining power on the putrefaction of the sputa, but if they are numerous they retain it a long time.

Catgut Stitch Abscesses. MARTINI. After many tests and experiments with strictly aseptic catgut made from fresh material, catgut made from putrefied carcasses and sterilized, and ordinary catgut, Martini announces that strictly aseptic catgut, made from fresh material and duly sterilized, is absolutely free from the objections which have contributed to deter surgeons from the use of catgut. The chemotactic action noted so frequently with catgut which is certainly aseptic, but not made from absolutely fresh material, is due to one or more chemical bodies, probably alkaloids of putrefaction, soluble but resistant to high temperatures.

Experimental Exposure of Intestines to Air. DE GAETANO.—Incising the abdomen and exposing the intestines of animals to the air, and to the effect of various stimulants and manipulations, showed that the consequences most to be feared were the effect on the heart function, especially during narcosis, and the adhesions and other serious disturbances that follow after a longer or shorter period, leading to cachexia and death of the animals.

New Method of Craniocerebral Topography. BONOMO.—This method is based on the "true horizontal line of the skull, the line that, starting at the orbitozygomatic angle, follows the upper edge of the superior curved line and terminates at the upper depression of the inion." This indicates the plane of the median cranial fossa, the height of the temporal ridge, the upper margin of the mastoid, the insertion of the tantorium and the course of the lateral sinus. "Perpendicular lines drawn at right angles to this line, from the median point of the zygoma, etc., cross the most important pre-Rolandic centers, etc., and the topography is much more exact than when based on the features of the face."

Societies.

Columbus Academy of Medicine.—At the annual session of the Academy, Columbus, Ohio, the following officers were elected: president, A. Timberman; vice president, C. A. Cooperrider; secretary, A. M. Steinfield; treasurer, F. W. Blake.

Jefferson County Medical Society.—The annual meeting of this Society was held in Birmingham, Ala., the 18th ult., and the following officers elected: President, Wyatt Heflin, Birmingham; vice-president, G. B. Heathcock; secretary, Wm. M. Jordan; treasurer, R. V. Mobley.

Montgomery County Medical Society.—This Society held its annual session in Montgomery, Ala., Dec. 16, 1899, and elected the following officers: president, J. L. Gaston, Montgomery; vice-president, Samuel Billing; secretary, Charles T. Pollard, Montgomery; treasurer, M. Sturm, Montgomery.

International Medical Congress.—The executive committee of this congress is said to be busily engaged in securing accommodations for the members for the Paris meeting. It has contracted with the great traveling agencies for a certain number, and the dormitories of the Paris colleges, with 800 beds, are also at the disposal of the members—the *Berl. Klin. Woch.* states—at 5.50 francs per bed.

Morgan County Medical Society.—At the annual session of this Society, in Jacksonville, Ill., Dec. 15, 1899, the following officers were elected: president, W. C. Cole, Jacksonville; vice-president, J. G. Franken; secretary, Edward Bowe; treasurer, E. F. Baker, Jacksonville; librarian, H. C. Campbell, Jacksonville.

South Texas Medical Association.—This Association held its seventh semi-annual session recently, in Houston, Texas, and the newly-elected officers are: president, J. H. Ruess, Cuero; vice-presidents, R. T. Morris of Houston and J. T. Moore of Galveston; secretary and treasurer, D. S. Weir, Houston. The next meeting will be at Beaumont.

Luzerne County Medical Society.—At the meeting of this Society, Dec. 20, 1899, at Wilkes Barre, Pa., a resolution was offered requesting Congressman Davenport to oppose a certain Senate bill which opposes vivisection in the District of Columbia. It was also voted to urge the city council to pass an ordinance establishing a board of health, as contemplated by the third class city law under which Wilkes Barre is now supposed to be governed.

Toronto Post-Graduate Medical Society.—This society was organized by the late Dr. J. E. Graham, in 1898. A few weeks ago a meeting was held at the Toronto General Hospital, for the purpose of reorganization. At that meeting Prof. H. B. Anderson was elected honorary president; H. A. Bruce, honorary vice-president; and A. D. Stuart of the present house staff, president. The membership is made up of the house surgeons of the various city hospitals and fifth-year men doing hospital work. Meetings will be held on the first and third Mondays of each month, at the various institutions.

Western Surgical and Gynecological Association.—At a meeting, held at Des Moines, Iowa, Dec. 27 and 28, 1899, this Association elected the following officers for the ensuing year: president, O. Beverly Campbell, St. Joseph, Mo.; first vice-president, A. C. Bernays, St. Louis, Mo.; second vice-president, J. R. Hollowbush, Rock Island, Ill.; secretary-treasurer, George H. Simmons, Chicago; executive council, H. C. Crowell, Chairman, Kansas City, Mo.; Lewis Schooler, Des. Moines, Iowa; J. P. Lord, Omaha, Neb.; J. E. Moore, Minneapolis, Minn., and M. L. Harris, Chicago. Minneapolis, Minn., was selected as the place for holding the next annual meeting. Chairman of the Committee of Arrangements, A. W. Abbott.

International Sanitary Conference.—The various powers signing the agreements of this Conference, at Venice, apply its provisions differently, and consequently the lack of concerted action is a menace to some of the contracting states. The health authorities of Italy, in view of these facts, recently petitioned the government to take steps for another international sanitary conference to remedy these defects in the Venice program and others which time has developed, and a circular has been sent out by Italy, to all the powers represented at Venice, asking whether they did not consider a new reunion opportune. The *Semaine Médicale* observes that there is little chance of a favorable reception of the proposition as so many international questions are attracting attention just now, adding: "Besides, as we have often demonstrated, sanitary conventions can have no practical value unless the various governments are ready to devote the necessary amount of money for international hygiene, and unless England—and here is the principal point—is willing to comply with the wishes of other countries. The English are the masters of international sanitary relations and they do not seem disposed to abate a whit of their supremacy."

N. Y. County Medical Association.

HYSTERECTOMY WITHOUT PREVENTIVE HEMOSTASIS.

DR. A. BROTHERS presented a uterus that he had removed by this method, now so much in vogue in Europe. The usual incisions and dissection were made per vaginam, but no attempt at hemostasis until the time of drawing down the fundus of the uterus. Three or four clamps were then required to check the

ALCOHOLIC CIRRHOSIS OF LIVER IN A BABY.

DR. R. ABRAHAMS presented an infant of 16 months, in which there was marked ascites at the time of coming under his ob-

servation, early in November. It was not until after the diagnosis of cirrhosis of the liver had been made by exclusion, that he succeeded in eliciting from the mother the information that the baby had been allowed to drink beer ever since a very early age. After the performance of paracentesis abdominis, it was possible to map out the enlarged liver. There was no return of the ascites, and the liver had shrunk somewhat under appropriate dietetic and medicinal treatment.

DR. H. ILLOWAY said that while some observers had insisted that alcoholism was a rare cause of cirrhosis in infancy, he personally believed that it was the chief, if not the only, cause of hepatic cirrhosis in early life. It was common in children between the sixth and twelfth years. According to his experience, beer seemed to be even more potent than spirituous liquors in producing this pathologic condition.

ETIOLOGY, DIAGNOSIS AND TREATMENT OF CYSTITIS.

DR. RAMON GUITÉRAS read a paper with this title. Acute cystitis, he said, was most commonly the result of an extension of a gonorrhea from the urethra. Congestion of the bladder wall, distension of this viscus, and immoderate indulgence in horseback or bicycle riding were powerful predisposing causes. Cystitis should not be confounded with mere irritability of the bladder, or with posterior urethritis, prostatitis or seminal vesiculitis. If the urine were passed into three glasses it would be found, in cases of cystitis, that the last glass contained more pus than in cases of posterior urethritis. In the latter condition, the first glass would contain the most pus, and would also show shreds. Prostatitis would manifest itself by painful sitting, and tenderness and enlargement of the prostate on digital exploration. The same method of examination would show, in cases of seminal vesiculitis, tenderness and enlargement of the seminal vesicles, and in the later stages it would be possible to express the detritus into the bladder by massage. In cases of chronic cystitis, the first and third glasses would contain more pus than in the second glass. In differentiating cystitis from pyelitis, it should be remembered that in the former the urine is usually alkaline and contains more pus, and more constantly than in pyelitis, and that disease of the kidney is apt to be associated with pain in the lumbar region. The cystoscope is also an important diagnostic aid. In treating acute cystitis it was recommended that hot sitz baths or hot rectal douches of saline solution be given twice a day. Alkaline diluents and antispasmodics should be given internally, the latter in the form of suppositories when the pain is intense. When the urethra is not too sensitive, irrigations of the bladder from the meatus are useful, and for this purpose nothing is better than a solution of permanganate of potassium, 1 to 4000, gradually increased up to 1 in 1000. In the later stages a solution of nitrate of silver, 1 in 16,000 to 1 in 4000 could be substituted with advantage. Where the urine is ammoniacal, great benefit would follow from the internal use of urotropin in doses of half a dram three or four times daily. Where the cystitis is the result of stricture, prostatic enlargement or new growths, the special treatment is obvious.

DR. ALEXANDER J. C. SKENE, in opening the discussion, dwelt more particularly on cystitis in women, and its etiology. He took the ground that cystitis in women is much more frequently the result of trauma than of sepsis, and instanced, in support of this view, the fact that when he had abandoned the use of metallic catheters, using in their stead the soft-rubber ones, the frequency of cystitis as a sequel to catheterization very greatly diminished, though the same aseptic precautions were observed with the metallic as with the soft instruments. The speaker also directed attention to the development of cystitis in women as a result of maintaining the standing position for a long time. Such a mode of life is much worse than excessive walking, and the explanation is in the fact that the circulation is improved by walking. Direct inspection of the bladder in some of these cases revealed the presence of a small area of ecchymosis. Dr. Skene asserted that another important cause of cystitis in women is exploration of the bladder with the cystoscope or endoscope, even though done skillfully and under strict asepsis. Such aids to diagnosis, while convenient, are not essential in many instances. He ordinarily relies on a skilful analysis of the urine to give him the necessary information. Thus, if the patient is directed to urinate a little, to wash out the urethra before the specimen of urine is collected for examination, it would be easy to exclude a urethritis; and if, after having thoroughly washed out the bladder, the next portions of urine coming from the ureters contain the products of inflammation, it is fair to assume that the abnormality is not in the bladder, but in the ureters or kidneys. In the local treatment of cystitis it should ever be borne in mind that the bladder should receive the washing fluid very slowly, and that distension should be avoided. While he would admit that the stronger solutions of nitrate of silver often seem to give prompt relief, this is usually only temporary, and the best results were secured from the use of a solution not exceeding in strength 1 to 2 gr. to the ounce. When ulcers are present, the ulcerated area alone should be treated, and the best application is a rather caustic one. For neoplasms of the bladder, Dr. Skene recommended performing suprapubic cystotomy and seizing and compressing the growth in an electro-hemostatic forceps.

DR. EUGENE FULLER said that atony, traumatism, deficient drainage, calculi and tumors of the bladder might all act as causes of cystitis. Cystitis in the male most commonly arises from the urethra by an ascending infection.

DR. W. K. OTIS discussed the technic of washing the bladder. He recommended that, in cases of cystitis associated with posterior urethritis, the catheter should only be introduced to a point just within the external sphincter, which would be known by one's ability to introduce fluid without it running out again on the removal of the syringe. The patient should be allowed to evacuate the fluid, thereby cleansing the urethra as well. The double-current catheter is a failure, and should be eschewed. Where the disease is confined to the bladder, a soft-rubber or silk catheter should be used. In all cases of atony, especial care should be exercised not to distend the bladder with fluid, and it is well to secure complete emptying by pressure with the hand over the pubes.

DR. R. GUITÉRAS, in closing, expressed the belief that all of Dr. Skene's examples of cystitis arising from trauma could be satisfactorily explained on the theory that the injury caused congestion of the bladder, which it is well known is a powerful predisposing factor in the production of cystitis, acting apparently by affording favorable conditions for the entrance of an infection.

SYPHILIS OF THE NERVOUS SYSTEM AND THE USE AND ABUSE OF MERCURY AND IODIN IN ITS TREATMENT.

DR. WILLIAM M. LESZYNSKY read a paper with this title. It is to appear in the JOURNAL, with the discussion.

Cincinnati Academy of Medicine.

Dec. 11, 1899.

ACUTE DILATATION OF STOMACH.

DR. JOSEPH EICHBERG presented a specimen from a patient who had succumbed to an attack of pneumonia. When the stomach, after its removal, was distended with water, it contained ten pints. This complication on the part of the stomach during the convalescence from an acute disease is exceedingly rare. He also suffered from a granular kidney, and it is most frequently in cases of interstitial nephritis that acute dilatation of the stomach has been observed.

PYONEPHROTIC KIDNEY.

DR. CHAS. SETH EVANS presented a specimen from a kidney removed eight days previously from a woman suffering with pyonephrosis. The complaint began about twelve years ago, when she first noticed an increased amount, with turbidity, of the urine. Since that time she has had one attack of renal colic. She has never passed any calculi, gravel or sand. The disease always affected the same side. Micturition was frequent and painful. On examination, two weeks ago, he found an enlarged and somewhat displaced kidney on the right side, and also discovered two cicatrices from incisions made during a former operation. One of these incisions was anterior, the other in the loin. She gave a history of having been operated on twenty months before for floating kidney. The kidney, on being laid bare, was twice its normal size and filled with cysts. The adhesions were too firm to break up without great danger of wounding some of the important structures in the neighborhood, so the operation was completed by shelling

the diseased organ from its capsule. Eight days after the operation, her pulse was normal, and she passed thirty-eight ounces of urine.

GALL-STONES.

DR. GILES MITCHELL presented specimens from a woman, aged 50 years, who has for two years had attacks of what she called biliousness, which attacks were attended with much pain, and from which she recovered by the use of moderate doses of calomel at night, followed by a saline purgative in the morning. She was not jaundiced, but gave a history of having had jaundice when eleven years of age. On opening the abdomen, the gall-bladder was found to be considerably distended, but the stones could be readily palpated. Before being opened, the gall-bladder was stitched to the peritoneum with a running suture. The bladder was then incised, the stones removed, the wound irrigated and the incision closed save for an opening for a small drainage-tube. The operation was made four days ago. The highest temperature she has had is 101 F.

PHYSICIAN'S PROBLEM IN HEREDITY.

DR. DAN MILLIKIN presented a paper on this subject. In the discussion, the speakers for the most part narrated instances of heredity that had been brought to their attention.

DR. JOHN OLIVER reported a family in which the hemorrhagic diathesis was well marked. Here the transmission was confined, in each case, to the eldest son of the family, that is to say, the women escaped, though the eldest sons of the girls showed this peculiar trait and died before they reached maturity. Subsequent children born of the same mother showed no trace of this tendency.

DR. D. I. WOLFSTEIN said that the German government investigated the history of a certain criminal family for four generations, and found it had its inception in a criminal father and a criminal and epileptic mother. During this period there have been twenty-seven criminals, while others belonging to this family have been the victims of degenerative affections of various kinds. It has been estimated that during the time this record has been kept, this one family has cost the German government about one million marks.

DR. LOUIS STRIKER reported a case which had come to his attention about six months ago. A gentleman had come to him, with his two children, with the report that two of his family had become blind with atrophy of the optic nerve at their fourteenth year. He wanted to know whether his children, aged 10 and 14, would be liable to the same affliction. The sight of the children was perfectly normal.

Dr. Alexander then described the technique of his operation of perineal prostatectomy. He said that, in most instances, the suprapubic incision would be required in order to allow of the prostate being pressed down sufficiently far. He prefers the longitudinal incision, as it answered every purpose, and healed more quickly than the transverse one. The floor of the membranous urethra should be divided up and a little into the apex of the prostate, and then the mucous membrane of the prostatic urethra should be broken through as near the apex as possible, and the enlarged lateral lobe enucleated. Having succeeded in removing the lateral lobes, the so-called middle lobe enlargement could be pressed down into the cavity and enucleated. The incision should be sufficiently deep to go not only through the capsule of the prostate, but well into the enlarged lateral lobe. The failure to attend to this point accounts for most of the failures. The prostatic urethra above the vera montanum should be preserved intact.

LOOSE CARTILAGES IN THE KNEE-JOINT.

DRS. B. FARQUHAR CURTIS, SAMUEL LLOYD and JOHN F. ERDMANN reported cases in which they had successfully removed floating cartilages from the joint.

OPERATING CYSTOSCOPES OF NITZE AND CASPAR, AND THE FREUDENBURG-BOTTINI PROSTATIC CAUTERIZATOR.

DR. WILLY MEYER exhibited and demonstrated these instruments, so difficult to obtain in this country. Speaking of the Bottini method of treating hypertrophy of the prostate, he declared it to be his conviction, founded on an experience with the method in 23 cases, that it had come to stay. Nitze, he said, had operated sometimes fifteen times on cases of tumor of the bladder, using his snare attachment, and he claimed that these papillomata of the bladder were benign. On this point Dr. Meyer expressed the opinion that if Nitze's cases were examined some years afterward, many of them would be found to be malignant. The operating cystoscope perhaps finds its most useful application in connection with litholapaxy, because it enables the operator to determine by direct inspection whether or not all fragments of calculi have been evacuated.

DR. L. BOLTON BANGS was of the opinion that the Nitze instruments might be useful for the treatment of recurrences, but were not appropriate for first operations, because these growths were apt to be malignant. He had known the Bottini cutting instrument to fail absolutely in some cases, but thought it would prove useful in cases of soft prostatic hypertrophy.

DR. S. ALEXANDER objected to the Bottini cautery operation, on the ground that it only partially removed the mechanical obstruction, and that even its most enthusiastic advocates did not claim that it would restore the impaired function of the vesical muscle. Another objection to it was that it did not give proper drainage. From personal observation he was convinced that the good effects claimed for this operation were at best only temporary, and the patient was left in a poor condition for any subsequent radical operation.

California Academy of Medicine.

San Francisco.

RESECTION OF ELBOW-JOINT.

DR. HARRY M. SHERMAN presented a patient on whom he had performed resection at the elbow-joint for tubercular disease. The particularly interesting feature of the case was an incident that occurred during the operation and which shows the resistant character of nerve tissue. The ulnar nerve was exposed for about 3 to 4 mm. of its length. After swabbing out the wound with pure carbolic acid, he carefully wiped off the acid, cleansed the wound and packed it. In due course healing took place, but at no time was there any trouble arising from the application of the acid to the nerve. An abscess formed in the cicatrix but this was scraped out and cauterized. The wound then healed well, and the young man has a fairly useful joint, with more than the usual amount of motion at that elbow. As a rule, "flail" joints result from excision, and the arm is not very useful; here, however, while the joint is not at all strong, it has most of the normal motions.

While the elbow was healing the patient complained of pain in the upper part of the left thigh. Nothing could be found by superficial palpation, but on deep palpation a distinctly fluctuating mass could be outlined and aspirated, thus removing a considerable amount of pus, and the abscess remained empty. The Doctor could find no bone lesion that could explain this as a "cold" abscess, and considers it merely a tuberculous focus in the soft tissues of the thigh, the growth of which eventually produced the abscess cavity which he evacuated. There has been no recurrence, but the man complains of pain in that region on damp days.

SKIAGRAPH OF SARCOMA OF FIBULA.

DR. SHERMAN also exhibited this skiagraph, showing a condition that does not correspond with any X-ray picture he has ever seen of tuberculosis in bone. The fibula presented a peculiarly fragmented appearance; the lime salts had been entirely absorbed at some points, while at others their partial absorption gave the bone the appearance of fragmentation already mentioned. The clinical picture, together with the appearance of the skiagraph, led him to believe that he will find, on operation, a sarcoma.

DR. THOMAS W. HUNTINGTON considered the first case presented by Dr. Sherman the best result he had seen after resection at the elbow-joint. He does not like prolonged packing. Many wounds will heal much more quickly if this period of packing is made shorter, and after the cavity is clean the pack simply acts as a foreign body and is an irritant. This is particularly true when we are dealing with the shafts of bones, as in osteomyelitis. He considered it interesting to know that the carbolic acid did not affect the nerve harmfully.

DR. DUDLEY TAIT said he had never seen a better result follow resection of the elbow-joint. He thinks it would be well to carry into general surgical work the methods which he em-

ploy in dealing with septic conditions of the gall-bladder. Here the wound is kept open until the discharge is found to be aseptic, when it is closed. In regard to the result, he asked whether much of the humerus was removed.

DR. SHERMAN answered that all of the epiphysis was removed; about 1½ inches, including both condyles.

DR. T. W. HUNTINGTON recalled a case in which the operator inadvertently irrigated the wound with almost pure carbolic acid. The acid was put into the bag of the fountain syringe in which the proper amount of water to make a 2.5 per cent solution had already been placed. The mixture was not good and when the stream was turned into the wound almost pure carbolic came from the irrigator. The wound surface was pretty well seared, but no harm resulted.

DR. HAROLD BRUNN asked whether anesthesia was observed after the operation reported by Dr. Sherman.

DR. SHERMAN answered in the negative.

DR. BRUNN then pointed out that the axis-cylinder was not injured, and, such being the case, no lasting harm would be done to the nerves.

DR. HENRY KREUTZMANN expressed surprise that modern surgeons are still using carbolic acid, when we have so many things that are better.

DR. SHERMAN said that he had found carbolic acid extremely useful. It is, as we well know, not an acid at all, but an alcohol. Ethyl alcohol will antidote the effects of phenyl alcohol before it has remained in contact with the tissues for two minutes. We may even wash the hands with pure carbolic acid, if we subsequently, and within two minutes, rinse off the carbolic acid with alcohol. At the Children's Hospital he is having all dressings made with sterilized rubber gloves on the hands and the amount of suppuration has much lessened. He is having carbolic acid, 2.5 per cent. solution, used on one floor and salt solution on another, and can see no difference between the two floors. When he is a little more certain of this he will abandon the use of carbolic acid altogether and use salt solution.

DEGENERATION OF OVARY.

DR. HENRY KREUTZMANN presented a specimen of pseudomyxomatous degeneration of the ovary, portions of the peritoneum, tube, etc. The specimen had been removed two weeks before. He recalled the recorded cases of this peculiar condition, some thirty or forty in number, laying stress on the fact that practically all the patients had died within a year or two after the operation, apparently from subsequent involvement of the whole peritoneum with growths of a similar character. In some the tumor had ruptured and the sticky contents were found in the abdomen; in others the sticky contents were allowed to escape into the peritoneal cavity at the time of operation. In all, general degeneration, of the pseudomyxomatous variety followed. He detailed a case which he saw in 1896.

DR. J. HENRY BARRAT said he reported a case some four years ago, on which he had operated and found the entire abdomen filled with this sticky mass; it had to be scooped out with the hands. There was a large ovarian cyst which had ruptured and part of the contents had escaped; the remainder had to be scooped out. It was quite impossible to wash out the material. The patient did very well, however, and died three years later, from tuberculosis of the lungs. He could not see that she was harmed by the presence of this material in the peritoneal cavity, and that certainly did not cause her death.

DR. DUDLEY TAIT said he reported a case five years ago. The tumor was very large, and peculiar in shape, looking very much like the intestines. There has been no recurrence.

PRIMARY CARCINOMA IN BONE.

DR. GUIDO CAGLIERI reported a case of this condition. The patient was 52 years old and gave no personal or family history. He complained of some pain in the neck and said a tumor had appeared there a few months before and was growing. The anterior and posterior triangles were quite well filled with what the Doctor thought to be enlarged, tuberculous glands. They were hard and connected. He could discover no malignant growth from which these could have been caused. It was decided to operate and clean out these glands, because one of them had broken down. At the time of operation the possibility of their being secondary to some malignant growth elsewhere was mentioned, but nothing of the sort could be found. The patient did fairly well for a couple of days; then he began to get worse. At the end of a week the entire region of the operation was enormously enlarged and the appearance of the wound and skin showed clearly that the mass was cancerous.

Death resulted in the sixth week following the operation and the post-mortem examination revealed a most peculiar condition: Springing from the sixth rib, and protruding into the lung, was a large mass. The glands of the mediastinum, the neck, and in fact in the whole vicinity, were cancerous. A section received from the mass near to the site of the operation showed every appearance of carcinoma.

DR. PHILIP KING BROWN said that while primary carcinoma of bone is so extremely rare as to, in every case, lead to some doubt and enforce a most careful examination, this was, in his opinion a case of primary carcinoma of bone.

DR. DOUGLASS W. MONTGOMERY said it did not appear to him to be a carcinoma, but had more the appearance of a form of sarcoma.

DR. BROWN said that the clinical picture taken in conjunction with the section, led him to believe it carcinoma. The mass, weighing five or six pounds, grew in six days, and is a hard mass, while sarcomata are softer. A few places of the section only do not look like carcinoma, but the section entire has more the characteristics of carcinoma. In many respects it resembles an endothelioma.

DR. DUDLEY TAIT was inclined to believe it a carcinoma, primarily of the sixth rib. He said that the exceedingly rapid growth of a hard mass of this character is certainly a point that must be considered in forming an opinion. The history of the case enforces on us the fact that it is unwise to do any incomplete operation for cancer.

TUBERCULOSIS OF THE EPIDYDIMIS.

DR. DUDLEY TAIT exhibited a specimen of testicle which had been removed for the cause named. He stated that he did not think it right that the Academy should adhere to the opinion, expressed at a previous meeting and published, that radical surgical methods alone should be employed in dealing with this condition. He thought that as the testicle is a gland with internal secretions of value to the individual economy, it should be preserved when possible. The specimen exhibited showed that the epidymis alone was involved and the testicle itself might have been saved.

Chicago Academy of Medicine.

Nov. 10, 1899.

LARYNGEAL PARALYSIS.

DR. EDWARD T. DICKERMAN reported a case of this disease as follows:

The patient was sent to my clinic by Dr. Favill, who had examined him and found his general physical condition normal. He is an American, 24 years of age. His father died of pneumonia; his mother is alive. He had been rather dissipated, drinking and smoking heavily; had never been sick, but gave a history of a hysteric blindness when about 15 years of age. About one year ago, he noticed that he was slightly hoarse, had a sore throat, and about this time he found that on exertion he was short of breath. His respirations at night were noisy and he appeared to be choking. He lost about twelve pounds in weight from January 1 to June 1, and consulted his family physician, who told him he had tuberculosis and must go west. He went to Montana and worked on a ranch, and says his health was perfect, and the only thing that bothered him was shortness of breath, some obscure pains in the chest and legs, while his noisy respiration at night was a nuisance to everyone. He never had a cough, nor expectoration.

On examination I found his general condition perfect. The nose and pharynx were normal in appearance. On looking into the larynx I found the ventricular bands slightly congested, also the aryepiglottic folds. The vocal cords were in a position of pronounced adduction. There was no relaxation of the free borders of the cords; a very slight movement about equal in extent during inspiration and expiration was noticed. On phonation the cords approximated. A diagnosis of recurrent pharyngeal paralysis was made, with the cords in a position of adduction. As is well known, early paralysis of the muscles

supplied by the recurrent laryngeal, no matter where the lesion lies, at first cause a preferential paralysis of the abductors, followed later by the other muscles of the larynx.

The cause of this paralysis was now looked for, and after the most careful search by myself, I asked Drs. Moyer and Goodkind to look the man over, and they were unable to find in his physical condition or central nervous system any adequate cause to explain his condition.

I then took him to the Fuchs X-ray laboratory, and here nothing abnormal could be found in the chest. I think the most probable cause is an acute laryngitis or diphtheria, affecting the nerve endings, or causing a neuritis, but this does not, to my mind, satisfactorily answer the question. Functional diseases, as hysteria, as a rule, affect the adductors, but it is possible to have the condition as here shown. Any organic disease in the medulla would surely produce other symptoms, so that I am at a loss to locate the cause.

DR. JAMES G. KIERNAN—While I have not examined the patient, the type of face is that of a degenerate. Where there is a degenerate condition there is going to be what is called hysteria, as well as local neuroses produced by slight causes. In these degenerate subjects or in the neurotics, the primary factor, essentially an important feature, is an unstable neurotic condition, but secondary to this, as in hysteria and in neuropathic states, atrophies, etc., may occur. There is no reason why a degenerate might not have secondary congestions, which are much more frequent than secondary hysteric conditions.

DR. HAROLD N. MOYER—The case is interesting in its general features, and I think the diagnosis of bilateral abductor paralysis is correct. This is as far as we can go. If you ask what constitutes the pathologic anatomy, it resolves itself into a peripheral neurotic trouble, a paralysis of the nuclear origin of these nerves, or a paralysis due to pressure along the course of them, or an actual degeneration of the nerves themselves. So far as physical diagnosis will permit one to go, we are confident there is no pressure along the course of the nerves, interfering with their function. As to whether there is partial nuclear degeneration at the point of origin of the nerves, it is impossible to say. We may assume that the case is hysteric. If we use the term as simply synonymous with the word functional, I will not quarrel with the diagnosis. If you use hysteria, however, in the sense that it is a well-defined symptom-complex, characterized by fairly constant grouping of symptoms and progress, then it is clearly not hysteric. We are not justified in going one step beyond that in discussing the case.

DR. WILLIAM L. BALLENGER—How long has the patient been under observation?

DR. DICKERMAN—About five days.

DR. BALLENGER—How long has there been abductor paralysis?

DR. DICKERMAN—Since last February.

DR. BALLENGER—Has there been any improvement?

DR. DICKERMAN—He has manifested symptoms of paralysis since that time. He has shortness of breath, stridor and slight hoarseness. He has had these symptoms since last February. It was not until some time last June that he consulted a physician, who did not examine his larynx, but his chest, and from hearing the history, told the young man that he thought he had some lung trouble and had better go west.

DR. BALLENGER—Does he give a history of having had inflammations of the throat?

DR. DICKERMAN—The only history I have been able to elicit is that about the time he first noticed the trouble his mother woke him up after hearing him make a noise during sleep. He had sore throat at that time, and some trouble with the ear. His hearing is perfectly normal now.

DR. BALLENGER—Was there any pharyngeal involvement?

DR. DICKERMAN—Yes.

DR. BALLENGER—That is the point I wanted to clear up. These paralyses may result from the presence of tumors or aneurysms of the aorta; in other words, from pressure in the chest cavity on the recurrent laryngeal nerve, or they may be of central origin, or there may be peripheral inflammations of the laryngeal nerve, or paralysis may result from rheumatic or gouty attacks, developing a perichondritis. It seems to me that this case is probably one of peripheral neuritis, the result of streptococcal inflammation of the pharynx, the larynx, or of the neighboring parts, and the toxins resulting from the infection may have excited a neuritis and thus produced the paralysis. I do not wish to be placed on record as stating positively that the case is of that type, but if it is not, it must be from some other toxin—perhaps syphilitic. Dr. Dickerman stated, in narrating the history of the case, that syphilis or venereal disease was denied. He stated, however, that the patient had been a man of intemperate habits, and perhaps in his "rounds" he contracted the disease, and this might be an expression of it. The most probable explanation is this: It has been suggested that the man is apparently a degenerate, and as degenerates are more easily affected by the toxins than others, a slight toxemia may have occurred several months ago when he had pharyngeal and laryngeal inflammation, and a neuritis was excited which has expressed itself as a bilateral abductor paralysis.

DR. DICKERMAN—There is very little I can say in regard to this case, except that I am convinced that the paralysis is not due to syphilis. The man gives no history of that disease and an absence of enlarged glands and scars, such as we might expect to find. In regard to whether it is a peripheral neuritis which has involved only the filaments supplying the posterior crico-arytenoid muscles, that is a question I am unable to state. I am inclined to believe, however, that it is not this condition, as in such cases the tensors of the larynx are often involved. The larynx, after remaining for a certain time in adduction, gradually seeks the position of abduction, which is the ultimate result of a complete paralysis of the recurrent laryngeal nerve. Abductor paralysis only exists for a certain length of time where the whole nerve is involved; it gradually goes on to a state of adduction paralysis also, and remains in the cadaveric position or one of passive inspiration. Here we have a case that has existed for a year and has given all the symptoms of bilateral abductor paralysis. Candidly, I have not been able to make up my mind what the cause of paralysis in this case is, and I shall watch the patient with interest to see if any changes take place, and if eventually total paralysis of all the muscles supplied by the recurrent laryngeal occurs.

DR. REUBEN PETERSON presented the report of a case of "hernia of the appendix."

(To be continued.)

Topeka (Kan.) Academy of Medicine and Surgery.

Dec. 4, 1899.

MICROSCOPIC DIAGNOSIS OF DISEASE.

DR. C. E. MUNN gave a talk on this subject, and reported an interesting case of malaria where the plasmodium malariæ was demonstrated by the microscope. He reported another case where the symptoms pointed to some disease of the kidney. On examination albumin, urates and phosphates were found in abundance. He suspected tuberculosis and then took 100 c. c. of urine and added a solution of borax and boric acid and let it stand over night. In the morning the sediment had been precipitated and the clean solution was above. He filtered and made smears of the nitrate and found the tubercle bacillus.

He next reported a case of an army officer with a swollen testicle. He followed the usual treatment with iodin, strapping, etc., but without success, and later an abscess formed, was opened, and the pus contained the tubercle bacilli. The bacilli were also found in the urine and seminal vesicles. He advised change of climate. Six months later tender swellings developed on the chest, which also contained tubercle pus. He urges that we should always use the microscope early in all doubtful cases, and that the careful analysis of urine in all cases of disease is of the utmost importance.

He reported another case of a soldier with absolutely no symptoms of tuberculosis. He had never been on the sick list, but on examination of the sputum the tubercle bacilli were found in abundance. He was immediately sent to the hospital and the same afternoon died of hemorrhage, before any one could reach him.

N. Y. Academy of Medicine.

Surgical Section, Dec. 11, 1899.

PROSTATECTOMY.

DR. ALEXANDER B. JOHNSON presented a patient of 69 years,

on whom he had done this operation through a perineal incision. The removal of the prostate had been accomplished easily, and there had been little shock or bleeding. Irrigations of the bladder had been practiced daily with boric acid, for seven days, after which the soft-rubber catheter had been left out. On the eighth day the patient had begun to void his urine voluntarily. It was worthy of note that the employment of faradization, in connection with the after-treatment, had seemed to have a decided effect in the way of restoring the tone to the bladder, and so diminishing the quantity of residual urine. The speaker thought that the period of convalescence could be reduced by so modifying the operation as to avoid opening through the prostatic urethra. His proposition was, after having enucleated one lateral lobe of the gland, through an incision in its capsule, to endeavor to avoid tearing through the prostatic urethra by shaving off the rather firm attachment of the gland along this line with a blunt-pointed knife. This process should be repeated on the opposite side, and then a drainage-tube introduced through a longitudinal slit in the floor of the membranous urethra. The hemorrhage should not be greatly increased by this procedure, for, the area over which the prostate was firmly adherent to the urethral wall did not appear to be very extensive in any case. In the case just reported, at the end of six weeks the man had been able to retain from six to eight ounces of urine, and emptied his bladder only every four or five hours during the day.

DR. EUGENE FULLER presented a case in which he had used both the suprapubic and perineal incisions in connection with the operation of prostatectomy. The bladder had been foul and very atonic, and under these circumstances, he said, he believed hemorrhage could be more satisfactorily controlled and better drainage secured by having a suprapubic opening.

DR. FORBES HAWKES also presented a case of prostatectomy in which, after having enucleated the enlarged lateral lobes, he had removed the median lobe without opening the prostatic urethra, by passing his fingers down through the lateral pouches, an assistant making counter-pressure through the rectum. A good functional result was obtained.

DR. SAMUEL ALEXANDER said that in considering the value of any operation for the relief of prostatic obstruction, the causes of urinary retention should be well considered. One of these, and one often overlooked, was a displacement of the insertion of the fibers of the vesical muscle, as a result of which there was partial retention. He recognized three forms of so-called middle lobe enlargement of the prostate. The first was that in which the enlargement was limited to the anatomic isthmus of the prostate, forming an oval bar at the neck of the bladder. The second variety consisted in a growth in the anatomic isthmus, with enlargement of the glands at the internal urethral orifice—the most common variety. The third form was that in which there was a growth of the prostatic glands situated directly beneath the mucous membrane of the prostatic urethra above the vera montanum, giving rise to an upward enlargement from the floor of the urethra. A radical operation for the relief of prostatic enlargement should remove the mechanical obstruction, relieve the venous stasis, restore the attachment of the vesical muscle to approximately the normal, and relieve congestion of the bladder by furnishing adequate drainage.

Toronto Clinical Society.

Dec. 6, 1899.

MALARIA.

DR. W. B. THISTLE presented a boy aged 8 years, who lived in New York City prior to two years ago. He was first seen by Dr. Thistle just after he had passed through a severe chill, his temperature then being 104.4 F. Palpation revealed a markedly enlarged spleen. The patient was quite well the day before, and apparently so two or three days after. First examination of the blood showed no parasite, but eventually on every slide examined, and usually found at the stage where they almost completely filled the corpuscle, with pigment about the periphery. The white blood-cells showed an extreme quantity of pigment and evidences of phagocytic activity. Since entering the Hospital for Sick Children, the patient has had only one chill, which was quite typical, followed by a temperature of 105 F., succeeded by the sweating stage. No chills have been recorded since, but the chart shows moderate elevation every alternating day. He was put on two grains of quinin three times a day; and the disappearance of the parasites noted in three days, with rapid reduction in the size of the spleen.

LARVA MIGRANS.

DR. GRAHAM CHAMBERS exhibited a photograph of a lesion which was situated on the pectoral regions. At first it appeared on the back in the form of a serpiginous line one-eighth of an inch in diameter; the line increased from one-half to three and one-half inches every day. A fly-blister was ordered to be applied to the lesion, about an inch beyond the advancing margin; the result was a complete cure in a short space of time. In this exceedingly rare skin disease, the larva of the genus Estrus or bot-fly burrows in the skin, producing the lesion. In Central and South America the disease is not so uncommon; and it is supposed that this form of fly deposits the ovum under the skin, and this develops into the larva; although in this case the larva was not demonstrated. Authorities state it has to be cut out, but in this case the fly-blister cured it.

KOCHER'S EXCISION OF ELBOW.

DR. BINGHAM said that about the middle of 1896 this patient, a man aged 34, was struck on the elbow with a small piece of coal. There was very little pain at the time, and for two years he continued at his work, although most of that time the pain was quite severe. The arm gradually drew up and extension became more difficult. In January, 1899, Kocher's operation was performed; and the result has been as perfect as one gets in these operations. He now has good control of that arm, although the biceps is not at all developed. He can lift heavy weights, but can not do pushing movements. Dr. Bingham described the operation at some length, and stated that the only danger is that the surgeon may not remove enough bone.

AMPUTATION FOR CRUSHING INJURY.

DR. H. A. BRUCE showed a specimen which he had removed about the junction of the middle with the upper third of the leg. A brakeman, when a train was shunting in a country town, fell from the car and was rescued, just as the fire-box of the engine was about to pass over his body. Both bones of the leg about the lower third were badly comminuted, many pieces being detached from their periosteum, with much laceration of the surrounding tissues. The skin was not lacerated, but apparently incised in two places, the posterior aspect being considerably bruised. The foot was warm, and the patient had power to move the toes of that side.

PATHOLOGIC SPECIMEN OF ATHEROMA.

DR. HAROLD C. PARSONS showed these specimens to bring out a point of clinical interest, viz., the condition of the radial pulse as an indication of the condition of the rest of the arterial tree. The specimens were from a woman of 76 years. The pulse had always been soft, and it was quite evident that the radial artery was quite healthy, as also were the other arteries that could be felt. The woman had died of gangrene beginning in the great toe of the left foot. At post-mortem, the most extreme degree of atheroma was found in the coronary vessels, they appearing as though a button of bone surrounded their orifices. The anterior tibial vessels were quite normal. The kidneys showed a marked degree of sclerosis; also found in the left lobe of the liver.

Sterilization of Catgut with Alcohol.—A. Bardy confirms his previous statements in regard to the value of alcohol vapors in the sterilization of catgut, and now reports, in the *Gaz. des Hôp.*, 98, that tests with surgical requirements sterilized in glass with alcohol vapors at 125 C., showed that they were still absolutely aseptic two years afterward. The catgut becomes dry and brittle by this process, but regains all its flexibility and strength when dipped for a few minutes in 80 per cent. alcohol. Thus prepared the catgut is entirely free from water and, in contact with moist substances, swells, forming a strong and durable ligature which shows no signs of yielding even after eight days.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 6, 1900.

INSOMNIA.

Sleep may be interfered with by a variety of causes, some of which may be preventive, while others may awaken the individual. The disturbance is essentially a symptomatic manifestation, though often the most conspicuous one. It may be associated with organic disease or with functional disturbance of other origin. It may be due to the action of poisons, introduced from without or generated within the body. The etiologic factor is sometimes obscure. Among the more common causes are pain, disease of the cranium or its contents, respiratory and circulatory disturbances, febrile and toxic states, nutritive impairment and chemical influences in general. The sleeplessness of old age must be attributed to changes in the blood-vessels of the brain, and in the cerebrum itself.

A number of the less common causes of disturbed sleep were discussed recently by Oppenheim[1], before the Berlin Society for Psychiatry and Nervous Diseases. The qualification, psychogenic or deogenic, is applicable to insomnia due to excessive mental activity, delusions, or emotional disturbances, as in the insane, the hysteric, and the neurasthenic. Closely related to this variety of sleeplessness is that associated with hyperesthesia of the special senses, particularly of hearing. Profound visual or auditory impressions likewise may prevent sleep. Insomnia due to pain of any variety or origin may be designated algogenic or dolorose. Some forms of pain appear or undergo exacerbation only during sleep. Various paresthesiæ may have a disturbing influence on sleep Pruritis also may act in the same way. An abnormal sense of heat or cold—thermoparesthesia—is not uncommon. There may, further, be paresthesiæ of the special senses, as manifested by tinnitus aurium or visual hallucinations. Olfactory and gustatory paresthesiæ are rare as causes of insomnia. Gastro-intestinal disorders, and particularly their nervous features, are important factors in the etiology of sleeplessness. Cardiac and vascular disturbances exert an unfavorable influence on sleep. Palpitation of the heart and a sense of pulsation in various parts of the body may have a disturbing effect. Respiratory disorders, and particularly asthmatic states, have a like effect. Sleep may be interfered with, further, by manifestations of motor irritability, such as painful spasm and twitching of varied kinds. Insomnia is rarely due to secretory disorders, such as hyperidrosis, salivation, polyuria, and pollakiuria. Sleeplessness may be of sexual origin, sometimes of psychogenic variety, at other times from excess, and at still others from erections.

[1] Berliner Klin. Woch., Dec. 4, 1899, p. 1069.

The influences by which sleep may be prevented are not identical with those by which it may be interrupted, though some of these cause both results. There are some disturbing factors, further, that arise only during sleep, such as dreams, nightmare, night-terrors, and the like. The symptoms of gastro-intestinal insufficiency may be aggravated by sleep, which they in turn help to disturb. Pain sometimes occurs only at night—nyctalgia—and occasionally only during sleep—hypnalgia—and in this way it may cause insomnia. Epilepsy likewise may occur under the same conditions. Oppenheim cites an interesting case in which in the sequence of an attack of pneumonia complicating influenza, pulse and respiration ceased whenever the patient went to sleep, so that it was necessary to keep her awake in order to prevent death. This condition persisted for eight or ten days and then gradually subsided. It was attributed to the toxic influence of the influenza poison on the medullary centers.

In the way of treatment, the primary indication is, as always, the removal or the modification of the causative condition. This will require careful scrutiny of the patient, and the adoption of appropriate corrective measures. In addition, attention to diet, to exercise, and to personal hygiene will be helpful. In some cases a warm bath, in others a cold pack, in still others massage will achieve the desired result. The method suggested by Dr. Learned, namely, holding up some part of the body from the bed, as a foot or a hand or the head, may be practiced successfully in some cases. In the way of drugs, bromids hold first place, because of their general efficiency and of their relative freedom from danger. Chloral and paraldehyde are also deserving of confidence, as are several similar preparations. Opium or its derivatives will often succeed in inducing sleep when other remedies would fail, but it should ordinarily be reserved as a final resort because of its potency and the danger of habituation.

THE PLASMA CELL.

The origin, morphology and face of the cells of inflammatory infiltrations are of great interest, one reason being that the relations of the inflammatory cells of undoubted hemal origin to the new-found issue have not yet been definitely established. Recently one element in the inflammatory infiltration has been singled out as a distinct cell with definite tinctorial and morphologic peculiarities. This is the plasma cell, which Unna first differentiated from the cells with which it had been previously confused, by the affinity of its protoplasm for methylene blue. It is interesting to follow the attempts of various investigators to prove by means of the changes, which the plasma cell undergoes, that cells of hemal origin may give rise to fixed tissue. Now the plasma cell is characterized tinctorially by the blue stain which its protoplasm takes on and holds fast after treatment with methylene and blue; and morphologically by being round or oval, when lying free, and cubical, polygonal, or

elongated under various conditions producing pressure; the protoplasm seems more condensed at the margins, the center being less deeply stained, and the nuclei, which are round, are almost without exception eccentric in their situation; the chromatin network of the nucleus is also quite characteristic, there being five to eight coarser chromatic granules distributed along the periphery of the nuclear membrane. For these reasons more stress is now laid on the morphologic than on the tinctorial peculiarities, and it is quite proper to say that the plasma cell is a morphologic entity. The claim of Unna that plasma cells are young connective-tissue cells has not received any support whatsoever. It is now generally agreed that this cell is a derivative of the lymphocytes—small, mononuclear leucocytes—the principal reasons being the similarity of the nuclei of the two cells and the appearance of plasma cells in the splenic pulp and in the vessels in conditions of artificial leucocytosis. Councilman describes the emigration of plasma cells from the blood-vessels of the kidney in the acute cellular nephritis of diphtheria and scarlet fever. Plasma cells are also normally present in the blood-producing organs of many animals. While there is considerable obscurity as to the exact origin of the plasma cell, and while the significance of the activities whereby lymphocytes are rendered mobile and changed into plasma cells is understood, yet it must be regarded as established that in inflammatory infiltrations the plasma cells are essentially of hemal origin.

The next question is, has the plasma cell the power of development so that it may, for instance, change into connective tissue, or, to put it in another way, can connective issue be of hematogenous origin? This question has not been settled. Certain transitional forms, so-called, are observed in granulation tissue, which some interpret as proof of plasma cells becoming fibroblasts, but conclusive and unimpeachable evidence of this transformation has not yet been brought forward.

The demonstration of the presence of the plasma cells in inflammatory infiltrations, and the further establishment of their origin from lymphocytes are, however, important advances in the morphology of inflammation, and the efforts to differentiate the various cell forms in inflammatory states have been materially furthered.

POPULATION AND PROSPERITY.

A socialist writer recently, in describing New Zealand institutions, which are in some respects advanced experiments of the application of socialistic theories, expressed the opinion that while it still has its evils and defects, that archipelago, if not yet the model, is a very fortunate community. In one respect statistics appear to bear out this opinion; it has apparently a lower death-rate than any other population of equal size. The total death-rate in 1895 was 9.90 per 1000, and in 1896, 9.10, as against 18.7 in England and Wales, 22.3 in France, and 22.2 in the German empire in 1895. If the statistics are correct, New Zealand is, as Dr. Drysdale says, probably the healthiest country in the world. Its mortality from tuberculosis was in 1896 only 7.4 to the 10,000 inhabitants. Against this low death-rate we have, however, a correspondingly low birth-rate, only 26.33 per 1000, which is down toward what is considered the danger mark in continental Europe. What this indicates we are not prepared to say, but in a new country with comparatively sparse population, like New Zealand, the same causes for a declining birth-rate ought not exist as in the older and more dense populations of Europe and parts of this country. A scarcity of women is not said to exist, but there must be a lessened number of families, for the average number of children to a marriage is given, and is a little above that of England and Wales, viz., 4.32 to 4.16. New Zealand has also its proportion of illegitimate births, but they do not appear to materially affect the general statistics. The proportion of children under 5 years of age was, in 1896, according to Newsholme,[1] 119 to the 1000, as compared to 123 in England, which certainly does not show a difference that can account for the low death-rate, and indicates rather an equalization of conditions in this particular. Dr. Drysdale, in his communication to the *Lancet*, attempts to account for the low death-rate by the low birth-rate, which has lessened the struggle for food supplies. It is not necessary, however, to credit this to the lowered birth-rate, for in a productive underpopulated country, under good or approximately good laws, food will necessarily be abundant and cheap, and the birth-rate will not enter as a factor into the question till the population has grown to meet the productive or rather the supplying capacity of the country. The low death-rate will have to be accounted for by the general healthfulness of the country, the sound constitutions and generally wholesome lives of its settlers, and the abundance of suitable food; in short, its general prosperity. The low birth-rate is still to be accounted for, and with the very respectable proportion of young children, is rather hard to explain. The marriage-rate, though increasing, is apparently still low; Drysdale quotes it as 6.85 to 1000 population in 1896, and this would correspond with the low birth-rate, which in New Zealand has actually led to a contraction of the schools and dismissal of teachers for lack of children to be taught.

We can see no reasonable cause for this state of things in New Zealand, other than that existing for the same conditions of affairs in other prosperous communities, and that is neo-Malthusianism, working out its results by delayed marriages, celibacy and marital continence, as well as by the less respectable and even criminal practices often credited with this result. Drysdale says the statistics of New Zealand remind him of the low birth- and death-rates of a comfortable London suburb, Hampstead, where births are 18 and deaths 12 to the 1000. It is true that full feeding is not, in the animal kingdom, specially conducive to fecundity, and imaginative biologists and psychologists have associated the sexual appe-

[1] Vital Statistics, p. 83.

tite with that of hunger, but in the human species we can not attribute all such effects as those here in evidence to such a causation. The modes of life in New Zealand are not supposed to be analogous in any way to those of animals that in captivity fail to breed, though doubtless civilization is in some ways and to some extent a check. Whatever action such physical and external conditions may have must be partial, and voluntary human agency must be invoked to account for the rest.

In an economic point of view a lowered birth-rate is a sort of necessary sequence of a lowered death-rate, and the natural increase of birth-rate, of 26 to a death-rate of only 9 or 10, would rapidly double the population, and adding the increase from immigration, it is easy to see that the problem of population is one that will in time still necessarily trouble the New Zealanders. The noteworthy fact remains that at this early stage, before their area is crowded or their natural resources taxed, they are already beginning to show the signs that in older countries are to some extent reckoned as indications of national decadence. It may be that with the other social problems now undergoing or attempting solution in that Britain of the southern hemisphere, that of population is also to be to a greater or less extent worked out, or new facts are to be developed which may enlarge our notions on this as well as other economic questions.

The subject is one of interest to physicians as well as to political economists, and has therefore been thought worthy of mention here.

NATIVE DRUG PLANTS OF THE UNITED STATES.

We print in our "Miscellany" this week, an extract from the recent report of the U. S. Secretary of Agriculture, Hon. James Wilson, in which he asks Congress for an appropriation to enable his department to co-operate with the commission appointed by the Pan-American Medical Congress, to investigate the medicinal flora of the United States.

It will be a surprise to many of our readers to learn that this work has never been done in a thorough and systematic way. It is true that the "U. S. Dispensatory" and the "U. S. Pharmacopeia" and other important publications contain valuable contributions to the knowledge of our medicinal plants; but there does not exist at present anything like a complete list, to say nothing of assays or other pharmacologic investigation, of our medicinal flora. This situation was recognized at the meeting of the first Pan-American Medical Congress, where an international commission was appointed, having for its object the classification and investigation of the medicinal flora of all of the countries and colonies of North and South America.

This work has been taken up with more or less zeal in the different American countries—notably in Mexico, where the government has established and maintains the Instituto Medico Nacional, under the efficient supervision of Dr. Domingo Orvañanos. As a result of the splendid work which has been conducted in this institution, under the patronage of the president of Mexico, the medicinal flora of that country have been carefully investigated, all the drugs of real value have been assayed, their alkaloids have been isolated, and the entire medicinal resources of that republic have been placed on a strictly scientific basis.

In Cuba much preliminary work has been done under the efficient direction of Dr. Gomez de la Maza, whose "Diccionario Botanico de los Nombres Vulgares, Cubanas y Puerto-Riqueños," has at least furnished a key to the final investigation of the medicinal plants of those two of our insular dependencies, which might well be conducted to completion under the auspices of the present military government.

The work in Venezuela is already well under way at the hands of Dr. Francisco A. Risquez and other efficient collaborators. Chili is also active in the investigation of its plants, and intimations have been received to the effect that other of the South American countries are recognizing the importance of this step—in all of which governmental aid is being afforded. In Mexico this is almost unstinted, and as a result Mexico, in this regard, has acquired a position in the scientific world that is clearly ahead of any other country of the Western Hemisphere.

It is a matter of some chagrin that this splendid movement, which was inaugurated in the United States at an international American medical congress, held under the auspices of the United States government, should be less advanced in this country than in any other. The trouble has been in the want of funds. Application has been made to previous administrations for assistance to carry on this work, which is so clearly and distinctly of national importance that its burden ought not to fall on any one class. The excellent international commission, under the presidency of Dr. H. H. Rusby of New York—and especially the subcommission for the U. S., under his direct supervision—have been paralyzed for want of money. Applications to previous administrations have been fruitless. The last year was a very inopportune one for commanding the attention of Congress to scientific questions. The present year, however, Secretary Wilson has taken up the matter with clearness and intelligence, and, ably seconded by Mr. Frederick V. Coville, botanist to the Department of Agriculture, the movement is being brought to a focus.

But little can be said in addition to Secretary Wilson's report, which will add to the force of the recommendation. No one can appreciate the importance of this investigation more than do the physicians of the United States—for, while they are in no sense the direct beneficiaries, they are in a position to comprehend with special accuracy both the economic and humanitarian aspects of this movement. The producers of medicinal plants, the gatherers of them, the manufacturers of refined products and the afflicted who are relieved by them, together with the numerous dispensing pharmacists, all over the country, are to be counted among those who

will benefit most in a material sense by the results of this investigation. It devolves on the medical profession, however, to bring its direct influence to bear on Congress to secure the small appropriation asked for; this should be done without any hesitancy.

CONDITION OF THE PUPIL IN SLEEP AND COMA.

The medical profession has learned that the condition of the pupil is of very great diagnostic value in a number of conditions which are obscure, and experience has taught that it is usually contracted in the early stages of all acute inflammatory processes of the brain or its membranes, in the early stages of cerebral hemorrhage, and in the presence of intracranial tumors, located in the third nerve nucleus. It is also not to be forgotten that certain drugs cause contraction of the pupil, and that it may be in this condition as a result of chronic tobacco poisoning. So too, it is not to be forgotten that at the beginning of an attack of hysteria or epilepsy, myosis may be present, and that among watchmakers and jewelers, who continually inspect objects at a near point, the pupil may become abnormally contracted, apparently as the result of habit. Our attention has been called to this important question by an article by Dr. W. H. Robey, Jr.[1] He calls attention to the fact that in children, and indeed in adults, the pupil is always in a condition of myosis during sleep, and that this condition is physiologic. The matter was brought to his attention in a manner that indicates the value of recollecting the physiologic fact that we have just stated.

A sleeping child was brought to him with a history that it had fallen from a table, had struck on its head, become unconscious, vomited and had been dull and stupid ever since the injury. The question arose as to whether the fall was primarily produced by an epileptic fit, or whether it had resulted in some cerebral injury, which accounted for the unconscious condition of the patient when brought to professional notice. An examination of the pupil of the child showed it to have tightly contracted pupils, and, naturally, under these circumstances, the conclusion might have been reached that this myosis was due to irritative lesion of the brain. After the child's pupil had been examined, the patellar reflexes were applied, and this caused the child to wake up, when the pupil returned to its natural size. We believe, with Dr. Robey, that the contraction of the pupil during sleep is not generally known as being a physiologic phenomenon, and the fact that if the eye is opened during sleep, and the light strikes on the pupil, no reaction takes place in it, may still further mislead the physician. The moment that the patient awakes, the ordinary movements of the pupil to accommodation and light take place.

LEGISLATION IN GEORGIA.

The veto of the act legalizing and recognizing osteopathy in Georgia, published in our "Correspondence" in this issue, calls for notice. Governor Candler's veto expresses very fairly and concisely the reasons why the bill should not become a law, and its advocates will not find it easy to answer it. Osteopaths will shift the issue if they can and claim that they do not pretend to practice medicine in any sense, but that transparent falsehood will find few believers. Governor Candler has acted like an honest man and a man of good sense in his action in the matter, and it is to be hoped that other governors in like circumstances will follow his good example. It is time for legislation to cease putting premiums on ignorance in matters involving the lives and welfare of the people; if it does not, the executive should stand in the way of such idiotic measures, as has been so well done in this case by the governor of Georgia.

A JUST DECISION.

A recent decision of the Illinois Supreme Court, as given in the newspaper reports, is of importance to the pharmaceutic and medical profession. A general storekeeper and his wife, who was apparently also his partner in business, were found guilty in a local justice court of violating the pharmacy law in selling patent medicines along with other merchandise. The case went up to the supreme court in regular course, and it has affirmed the judgment of the court below in fining them for violation of the law. Under this decision, the practice, common heretofore, of country stores dealing in patent and proprietary drugs, will have to be discontinued or they will have to employ registered pharmacists as assistants. Very probably further efforts will be made to repeal the statute or, if possible, to have it declared unconstitutional, but their success is doubtful. The decision is one that medical men can certainly approve, and they should use their influence with the public against any efforts that may be made to render it invalid. The danger of ignorant dispensing of unknown remedies ought to be obvious enough to legislators as well as judges, and the law as now interpreted ought to be secure from possible change or repeal.

THE REWARDS OF MEDICAL PRACTICE.

If there be any who believe that the practice of medicine is a royal road to fortune, their minds should be disabused by communications like those of which two appear in the *Lancet* for Dec. 9, 1899. One of these is an appeal for funds for the widow of a medical practitioner, in order that she may join a hospital to be trained as an obstetric nurse and become self-supporting, the husband dying from typhoid fever after having been partially invalided for nearly five years by an accident, and leaving his widow utterly unprovided for. The second communication is likewise an appeal, this time on behalf of a practitioner himself and his half-starving family. This man was reduced to sheer poverty in consequence of disease, but in spite of his sufferings he labored on, and made some provision for his children, but even this eventually became jeopardized by the necessities of the family. We have no doubt that these appeals will be generously responded to by members of a self-sacrificing profession, but we fear that the cases to which they refer are by no means isolated. Instances like these should stimulate medical men everywhere to the organization of, and assumption of actual member-

[1] Boston Med. and Surg. Jour., Dec. 21, 1899.

ship in, mutual aid societies, of which examples are in successful operation at least in New York and Philadelphia.

THE INDEX AGAIN.

We have received many letters complimentary to the index sent out with last week's JOURNAL, and as one of these contains an adverse (?) criticism we publish it.

BUFFALO, N. Y., Dec. 30, 1899.

To the Editor:—The index to the current volume of the JOURNAL is a marvel of completeness, and the JOURNAL itself is now in the extreme front rank. Allow me to suggest that, as it has become so large, it should be divided into three volumes a year instead of two. A volume of 1720 pages is too heavy to handle with any degree of comfort.

ALVIN A. HUBBELL, M.D.

We are delighted to receive such criticisms; at the same time we are afraid that it will be impossible to gratify our correspondent by dividing the JOURNAL into three volumes a year. However, we will suggest a partial remedy for the arduous task of handling such large volumes, by repeating what we said six months ago, viz., . . . "the half-yearly volume now makes a very large book, too large to handle easily when several volumes have to be searched. Often the indexes of several volumes have to be examined before the desired matter is found. The suggestion we make is that an extra copy of the index be kept, aside from the one bound in the volume, to be used in looking up subjects. In a few years the great value of this system will be appreciated in the economy of time and labor, the several indexes being kept together in a cover for the purpose. To accommodate those who desire to take this hint, we have had extra copies of the index printed which we will send on receipt of three two-cent stamps. This is not a money-making scheme on our part, as the cost of paper, printing, mailing and postage will be more than six cents. It is a scheme on our part, however, to assist our readers, by making available, with little labor, the large amount of information contained in the bound volumes."

DANGERS OF CIGARET-SMOKING.

There has been considerable vapid utterance as to the dangers that lurk in the cigaret, while but little authoritative evidence has been adduced on the one or the other side of the subject. With the object of reaching a definite decision in the matter, the *Lancet* has carried out a series of investigations that disclose the absence of any foundation for the charges that have been so recklessly made. Cigarets of American manufacture, both obtained from New York City and purchased in London, were found absolutely free from foreign toxic substance, with regard to their paper wrapper as well as their tobacco body, morphin, phosphorus, arsenic, mercury, copper and other heavy metals being especially looked for. The only evidence of metal present was in the case of the copper used in the lettering of the paper wrapper, but the amount of this was so infinitesimal as to be incapable of the slightest injury. The amount of nicotin in the leaf used in making these cigarets is, in fact, less than is present in other kinds of tobacco. It is doubtful, further, whether any nicotin ever reaches the mouth of the smoker, except that present in the tobacco moistened by the lips. Practically none is contained in the smoke-products. As pointed out by the *Lancet*, the question of injury to health that may readily result from excessive or premature smoking of tobacco in any form is quite another matter. Any danger that appertains to cigaret-smoking is, it would appear, attributable rather to the method than to the materials.

THE ANTIVIVISECTION BILL.

The objection to the proposed Gallinger antivivisection bill, aside from the fact that it is only an entering wedge for more general and objectionable measures, is that it subjects those legally authorized to conduct experiments to unreasonable restrictions, to make reports if called for at any and all times, and to be subject to the visitations of hostile non-professional inspectors, male or female. Anyone who is acquainted with the tendencies of the sentimentalists who will seek these positions can readily conceive the obstruction and annoyance they can cause, hence the need of every effort being made to prevent their success with this measure. We print elsewhere in this number a letter, addressed by Dr. R. T. Morris of New York City to Senator McMillan, the chairman of the committee that has the Gallinger antivivisection bill in charge. In this letter are briefly given the useful results of experiments on animals by the writer himself. His letter is one the antivivisectionists will find hard to answer, and yet it is only the statement of the experience of one surgeon. It ought to carry weight with the legislators, and if it is backed up by similar communications from other physicians and surgeons who are able to give similar testimonies, it should be irresistible. Any one of our great medical centers, and many of the lesser ones, can furnish men of national reputation who can give witness to the value of the methods of animal experimentation in their hands to the world. Such facts will go farther with practical sensible men, such as we assume the majority of our senators are, than any amount of mere general statements as to the usefulness of vivisection, and it is hoped there will be many more presented.

THE STORY OF THE TWENTY TUBERCULOUS CLERKS.

The story that has been going the rounds, both in the lay press and in medical journals, and to which editorial allusion has already been made[1], has at last been traced to its source, and that is apparently not a medical one. The *Presse Médicale* of Nov. 22, 1899, quotes from *Podwyessotskys Archiv*, which in turn took the item from the journal *Rossia*, the following interesting news: "Within a short time there occurred twenty cases of tuberculosis among employees of the municipality of Kharkow, who had to make frequent reference to the archives. Physicians conceived the idea of examining certain of these, and found them literally covered with Koch's bacilli. Inquiry showed that, a long time before, one of the clerks working on these documents had consumption and was in the habit of moistening his finger in his mouth before turning the pages. He had thus undoubtedly infected those he touched, whence the infection of tuberculosis of all those using the same documents later." The story is not therefore originally from a medical source, in fact it has not the [illegible]

[1] Journal, Nov. 4, p. 1174.

detail of a medical history; the cases did not occur in a labor bureau in Germany, nor in the state offices of Michigan, to one or both of which they have been credited, and so far as we can learn there has been no regular medical report of the case anywhere. It is within the range of possibility that tuberculosis might be acquired in such a way, but the story as told would rather imply that the paper of old official documents was in this case an extremely good culture-medium and preservative of the bacillus, or that the original clerk had made a general smear of their pages. The item has been going around so long and, it would appear, so incorrectly told, that it seems worth while to give this latest and presumably more correct version.

Medical News.

DR. EDMUND C. BRUSH of Zanesville, Ohio, has been appointed surgeon-general on the staff of the governor of that state.

KIEL reports twenty-eight women students at the university, only sixteen unmarried. Five are between 50 and 70 years of age.

A CABLEGRAM states that Dr. Green of Alabama, U. S. Marine-Hospital Service, has been detailed as medical attache to the American consulate at Bremen, for the inspection of immigrants.

DR. ROBERT FLETCHER, principal assistant librarian of the Surgeon-General's library, Washington, D. C., will begin a course of lectures on forensic medicine at the Johns Hopkins Hospital, Jan. 5, 1900.

AN EXHIBIT of the literature on the subject of sanatoria for consumptives was opened last month at Wiesbaden, on the initiative of the local physicians, in view of the proposed erection of a sanatorium at Nassau.

IT IS announced in *Vratch* that the military medical academy at St. Petersburg has recently been presented with 300,000 roubles to endow scholarships for students in the three upper grades. The donor is the son of a physician.

BY THE will of the late Daniel Sharp Ford, publisher of *Youth's Companion*, the Cambridge (Mass.) City Hospital will receive $6000, Massachusetts General Hospital $7000 and the Children's Hospital of Boston, $5000.

BY THE will of Mme. Medwednikow of Moscow 5,000,000 roubles are to be distributed among the local hospitals and colleges, with provision for the erection of three new hospitals, and 500,000 roubles to endow scholarships at the University.

ACCORDING to the *St. Petersburg Med. Woch.*, Dec. 16, 1899, Dr. Schabelski of Ssaratow, was sentenced to Siberia on account of his participation in an abortion case, but by the efforts of Prince Urussow, this sentence has been remitted to a fine of 10,000 roubles.

THE GERMAN government has made an annual appropriation of 20,500 marks for the new Institute for Marine and Tropical Diseases, at Hamburg, reserving five tables for the State, and the privilege of appointing a medical assistant and sending physicians for special training.

THE RUSSIAN Red Cross Expedition sailed Nov. 28, 1899, via Odessa and Port Said for Pretoria, accompanied by six physicians and two other officials. The field-hospital is arranged for twenty-five beds. The Russo-Holland Expedition started in December, with four Russian physicians under a Dutch physician-in-chief.

THE DEATH of George W. Goodrich, Webster City, Iowa, is reported, with the statement that he carried an insurance policy of $2000 in the A. O. U. W., and that three days previous to his death he dismissed the family physician and called in a "Christian Scientist." The order refuses to settle unless a physician's certificate be appended, or the body be disinterred and a post-mortem examination held.

THE ANNUAL prizes of the Paris Academie de Medecine were distributed in December, amounting to $7600, not including the famous Audiffred prize for a sovereign remedy for tuberculosis, for which the income from an endowment of $144,000 is waiting. There were 171 competitors for the twenty-seven prizes. All were awarded to natives of France or the Colonies, although the competition is international. No serious communications were received from this country, it appears.

BRITISH CONGRESS ON TUBERCULOSIS.—At a meeting held in London, Dec. 18, 1899, it was decided to hold a national congress on tuberculosis, in the spring of 1901, to which will be invited representatives from India, Canada and all British dependencies, and in addition "honored guests from other countries." A large and influential general committee was appointed for the purpose of perfecting arrangements, raising funds, etc. The Prince of Wales has consented to open the congress in person and preside at its meeting, and this, with the additional fact that some of the leading men of the country, both in and out of the medical profession, are on the general committee, assures success from the start.

MEDICAL SERVICE IN THE TRANSVAAL.—The *British Medical Journal's* special correspondent, writing under date of November 22, says that the Boer ambulance arrangements are of the most primitive character, e. g., he cites a bearer, who left Johannesburg with one of the ambulances, and its only equipment was one wagon, fitted to hold three men, two bell tents, and a stock of drugs. Each medical man had a fairly good case of instruments, and each dresser a bearer case, and while there were twelve stretchers, no stretcher bearers were provided. Their method is to select any convenient building for a field-hospital, one doctor with some of the dressers to go on the field, while the other two remain at the so-called field-hospital. The dressers attend the wounded on the field and then get Kaffir men to carry them on the stretchers to the building, whence serious cases are sent to Newcastle by train or wagon, as conditions permit. At Newcastle a large house serves as a hospital, with two doctors and five nurses, but it is their practice to send all capable of traveling on to Johannesburg. As to the nature of the wounds made by the Boer rifles, he noted from cases in the Wynberg Hospital, that all except two were bullet wounds from Mauser rifles, and all the men agreed as to the small amount of shock produced by the Mauser bullets, also as to the slight amount of pain felt at the time of being hit. One notable circumstance is that the majority of the wounds were those in the extremities.

A NATIONAL BUREAU OF PUBLIC HEALTH.—Active steps are now being taken toward creating a bureau of public health in the treasury department, and it will depend largely on the support given to the committee of which Dr. U. O. B. Wingate is chairman, whether or not the bill will receive favorable consideration by the present congress. Senator Spooner introduced the

bill in the senate (S. 1440), on the 12th ult., and it was referred to the Senate Committee on Public Health and National Quarantine; this committee has been enlarged to nine members, and Senators Spooner, Depew, and Deboe have been added to it, with Senator Vest as chairman, as before. This bill is one that has been twice endorsed by the ASSOCIATION, also by the American Public Health Association, as well as by numerous medical and business organizations throughout the country. It will be introduced in the House in the near future, and will go to the Committee on Interstate and Foreign Commerce of that body, with Mr. Hepburn of Iowa as chairman, and it should be remembered that the bill (H. R. 1011) to create a bureau of public health, introduced by Mr. Mahon on the 5th ult., is not the ASSOCIATION bill, but a measure exceedingly objectionable and liable to mislead many unless care is observed. If every physician interested in this important legislation will use his utmost influence from now on with his senators and congressmen, urging them to support the "Spooner bill," success will be attained. Let a solid and persistent front be maintained and before the next meeting of the ASSOCIATION we will have a bureau of public health.

CONCERNING THE PLAGUE.—In the *Lancet* of the 16th ult., the special correspondent from India, writing under date of Nov. 26, 1899, comments on the Viceroy's recent tour in the plague and famine districts, and says that he inaugurated the first improvement scheme in Bombay. This involves an area of about twelve acres, having a population of 833 persons to the acre. This entire area is to be reconstructed with model dwellings, built in blocks, and every block is to front on a street and every room to have a capacity of 480 cubic feet per head. Provisions for the accommodation of the displaced population are to be made elsewhere, and the density will be limited to 500 people per acre. It is not expected that financial returns will be derived from the letting of the new dwellings, but that there will be a decided loss, as the people for whom the improvements are contemplated can not afford to pay a profit-yielding rent. The essential point is to ameliorate the conditions in which the poorer classes of Bombay exist, in spite of the financial loss. Similar large schemes of reconstruction are contemplated in other dense parts of Bombay. The writer's statistics show that the plague is diminishing nearly everywhere, the figures for the week ending Nov. 11, 1899, giving 2939 deaths for all India, against 3971 the previous week. The Peninsular and Oriental Line steamer *Ballarat*, from Calcutta, sailing for London, arrived in Plymouth the 16th ult., with a case of bubonic plague on board. The *British Medical Journal's* figures for the deaths from plague in India for the week ending Nov. 19, 1899, show a decrease in the Bombay Presidency, but an increase from 74 to 100 in Bombay city, and for the same week, in Calcutta, the deaths rose from 33 to 44. For the week ending Dec. 7, 1899, in Mauritius, 37 fresh cases occurred, with 29 deaths. The report of the marine-hospital service for the week ended Dec. 30, 1889, gives the following statistics: 19 cases and 19 deaths are reported from Hongkong during the seven days ended Nov. 11, 1899; there were 60 deaths in Calcutta, November 22-28, and 110 deaths in Bombay, November 14-21; 6 cases and 6 deaths in Kurrachee, India, November 11-18; 1 case was reported from Japan. The disease is said to be abating in Niuchwang, China. Press dispatches from Honolulu, the 18th ult., state that the plague has appeared among the Chinese of that city. There were 5 deaths from the disease previous to Dec. 12, 1899, and 3 more December 22-25. The sum of $25,000 has been appropriated to be used by the board of health in stamping out the disease. A complete house-to-house examination has been made, and the entire city will be placed in a sanitary condition. The bodies of all victims will be cremated and bacteriologic examinations made in all cases. All vessels leaving the port for any of the other islands must remain in quarantine outside the harbor seven days. It is proposed to secure a vessel to be anchored outside the harbor, to be used as a floating hospital for the care of all plague cases. It is said that owing to the occurrence of the plague in Honolulu, the state and local health authorities of San Francisco are taking special precaution against the danger of its admission to that port. The transports *Centennial*, *Newport* and *Tartar*, and the steamer *Gaelic* will be detained in quarantine for some time to come. It is also stated that many deaths have occurred in New Caledonia. Six new cases and 2 deaths were reported from Oporto during the week ended Dec. 31, 1899, making the total number of cases reported there 292, with 106 deaths. A committee has been appointed by the German public health authorities, to compile a series of instructions on the subject of the plague, intended exclusively for the profession. The committee consists of Gaffky, Pfeiffer, Gerhardt and Sticker. The work is already in the hands of the printer. Thiroux writes from the Isle de Reunion, to the Paris *Jour. des Debats*, that the disease prevailing there and diagnosed as plague, by the experts of the Pasteur Institute, is really nothing but an affection that has been familiar there for sixty years, known as infectious lymphangitis, never occurring in an epidemic form and never regarded as especially contagious nor as serious as many other diseases. He adds that no one has anything to say about beri-beri, and yet this disease is far more serious and extremely contagious, and is daily making more and more headway on the islands of that vicinity, and is much more to be feared than their infectious lymphangitis even under its new name, "the plague."

NEW YORK.

A COMMITTEE of the legislature is preparing a report concerning tuberculosis in cattle. It is expected this report will favor making inspections of herds at the request of their owner, and the destruction of diseased animals with, perhaps, the payment of an indemnity.

A NEW HOSPITAL—St. John's—has just been completed, with accommodations for over 200 patients, in Long Island City. As it is in the vicinity of many factories it will have a large emergency service. It is under the direction of the Catholic sisters of St. Joseph.

STATE HOSPITALS FOR CONSUMPTIVES.

A committee of the State Board of Charities has now in preparation a report regarding the feasibility of establishing state hospitals for cases of pulmonary tuberculosis. It is understood that the committee will recommend the establishment of one or more hospitals for this purpose under the care of the state, to be supported by a per capita tax levied on the locality from which each patient comes. The committee is composed of Harvey W. Putnam of Buffalo, E. V. Stoddard of Rochester, and Stephen Smith of New York City.

New York City.

AN AGREEMENT has just been reached between the associations of druggists and their clerks, by which the plan recommended in the Assembly last year, by Dr. Nelson H. Henry, is adopted. This is to require 140 hours in two consecutive weeks.

SO SHARP is business competition among undertakers engaged in burying the poor who die in the city hospitals, that

they strive eagerly to obtain "inside" information regarding deaths occurring in these institutions, and are therefore prepared to waylay the relatives of the deceased.

OPERATION FOR FRACTURE OF CERVICAL SPINE.

Walter B. Duryea, who underwent an operation for the relief of a fracture of the cervical spine, is not doing as well as was hoped for shortly after the operation. Operated on Sept. 19, 1899, three or four weeks afterward there seemed to be indications of at least partial recovery. Since then he has had an atack of pneumonia. While he keeps fair strength and excellent spirits, the indications point rather to a gradual decline, and that he will not recover the use of his limbs.

CERVICAL DISLOCATION WITH DEATH.

On Christmas eve a young soldier from the garrison at Fort Hamilton entered a saloon, and seeing an old friend at the bar, with his back to the door, called out a Christmas greeting to him. The friend, being deaf, did not hear the salutation, so going up behind him, the soldier repeated his greeting, and, at the same time, seized the other first by one shoulder and then by the other, and gave him a sharp twist. The only reply was a groan as the man fell to the floor. Medical aid was summoned, and it was found that a dislocation of the cervical spine had been produced, and had caused paralysis. The victim of this overfriendliness was only able to speak a few words before his death, some hours later.

VITAL STATISTICS.

The number of deaths in this city during 1899 was 65,218, against 65,864 in 1898. The annual death-rate per thousand was 18.37, against 19.16 in 1898, and the percentage of deaths in those under 5 years of age, 36.4, against 38.4 in 1898; in the Borough of Manhattan, 18.49 against 19.11 in 1898, and 36.5, against 39.1 in 1898, in those under 5 years; in the Borough of Broux—where the mortality is increased by the many large institutions located there—it was 22.61, against 27.10 in 1898, and under 5 years, 31.7 against 33.9 in 1898; in the Borough of Brooklyn, 17.50 in 1899, 18.19 in 1898, and under 5 years, 37.3 against 38.6 in 1898; in the Borough of Queens, 18.67 against 19.92 in 1898, and under 5 years, 37.3 against 35 in 1898; in the Borough of Richmond—Staten Island—18.79 against 19.94 in 1898; and under 5 years, 30.9 against 32.9 in 1898. Among the diseases which show an increase in the number of fatal cases are the following: measles, scarlet, typhoid and malarial fevers, diarrheal diseases, cardiac disease, sunstroke. Among those which show decreased mortality are influenza, diphtheria, cerebrospinal meningitis, bronchitis, pneumonia, pulmonary tuberculosis, Bright's disease and nephritis. In 1899 the deaths from pneumonia in New York City exceeded those from phthisis by more than five hundred.

WORK OF HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.

The annual collection of this Association was taken in the synagogues and churches of New York City on Dec. 30 and 31, 1899. Last year, after deducting the necessary expenses, the amount received was over $70,000, and it is hoped that this year it will reach $100,000. While, during the past few years, the amount of the hospital contributions has gradually increased, it has not grown as fast as the percentage of increase in the needs of the institutions benefited. The Association includes thirty-eight hospitals, and the general collection is divided among them on the basis of free work performed during the preceding year. During 1899 these hospitals cared for 31,740 patients, of whom 21,032 were free, and in addition treated 300,995 in their dispensary departments. The expenses of this work exceeded the aggregate income of the hospitals by $786,148, and for the making up of the deficit the institutions are dependent on private benevolence. In addition to the contributions received from religious bodies, collections are also taken among the professions, trades and exchanges, and from the general public by contribution boxes distributed in all parts of the city. In return for the collection in the trades and professions, the Association, through the hospitals it represents, pledges itself to take care of any contributing employee, or of anyone requiring free hospital treatment who is recommended by a contributory employee, until the entire amount contributed by any trade is exhausted, at the rate of $1 a day for each patient.

MARYLAND.

CARE OF INSANE IN MARYLAND.

Much interest centers in the proposed amendments to the laws relating to the insane of this state. Under the present law the insane pauper can be committed only by a jury in the circuit court of Baltimore. As a matter of fact, this procedure was found so cumbersome that it fell into disuse many years ago, and as a consequence nearly all of the insane in public institutions are held on illegal commitments, simply the certificate of two physicians. The recent attempt to revive this law has proven very unsatisfactory and burdensome. The time of the criminal court is unnecessarily occupied with insanity cases, many insane persons are sent to jail because of the difficulty involved in commitment, and many more are kept at home to their own detriment and to the danger of other members of the family. The plan proposed, which received the sanction of the Maryland Medical and Chirurgical Faculty, at the November, 1899, meeting, is as follows: The person alleged to be insane is examined by two competent physicians resident in the state. If insanity be found, a certificate is filled out and signed, the signature to be before any person qualified to administer an oath. The certificate is then presented to a judge of a court of record, who shall endorse the finding of insanity, or if not satisfied may order a new examination or may require a trial by jury. This is substantially the law that has been tried and found satisfactory in other states, and the objection of publicity, that has been made to it, does not hold good, since the magistrate who administers the oath simply witnesses the signatures, and the endorsement of the judge is not a matter of public record. Another defect in the present law is that "no one will be deemed a lunatic pauper who shall possess in his own right any property." This works great hardship in the case of those possessing small property, insufficient to pay the rate required in public asylums for private patients, viz., $7 a week, and which, if devoted to such purpose, would, in many cases, take away all means of support from the man's family. The only way in which such a patient can be dealt with under the law is for the property to be made over to the county, or city, to be held in trust, the profits accruing from it being used for the support of the man in the asylum. As a matter of fact, the law has been constantly disregarded in such cases. Under the proposed amendments the question as to the financial condition of the person committed is referred to the county commissioners or the supervisors of city charities, who fix the rate suited to the condition of the individual whether he is to pay full or half rates or is to be supported outright. Provision is also made for the commitment and detention of emergency cases for three days, until certificates can be obtained. It is also proposed to make it legal for superintendents of institutions to exercise the right of discharge or parole of patients who have recovered or are greatly improved, and to enlarge the power of the state lunacy commission—hitherto only advisory—so as to give it the power to transfer from the county almshouses such cases as, in their judgment, are not properly cared for, to one of the state institutions at the expense of the county, or to send patients back to the almshouses or from one asylum to another when the change is deemed expedient. Thus the insane are brought under the control and care of the state, and the next step will be the maintenance of all the insane at the expense of the state. At present the state can afford accommodation for less than one-half of its dependent insane, and the plan proposed will emphasize the necessity of immediate increase of the accommodations of our asylums. There are a number of minor changes contemplated, or a revision of form of certificate, requiring a female attendant to accompany a female patient to an asylum, and certain details relative to the work of the lunacy commission. Amendments to the lunacy laws of the state were offered in the legislatures of 1896 and 1898 but failed to pass; though, with the needs of reform so glaring and so conspicuously brought out, and with all the officers of asylums arrayed in this effort for new provisions, backed by the powerful influence of the Maryland Medical and Chirurgical Faculty, there is a certain prospect that these matters will not be neglected by the next legislature, which meets this winter. Too much praise in this

connection can not be awarded to the energetic secretary of the lunacy commission, Dr. George J. Preston.

MARYLAND EXAMINATION STATISTICS.

The fall examinations of candidates for license to practice medicine in Maryland, held Nov. 8-11, 1899, gave the following results: Of the 26 applicants, 5 failed, and of the failures, 2 were from the Baltimore University and 1 each from the College of Physicians and Surgeons, Baltimore; University College, Richmond, Va.; University of Maryland and Baltimore Medical. The highest mark, 96, was reached by a Johns Hopkins man, and the lowest, 65, by one from University College. One from the University of Maryland and one from the University of Virginia tied, with 92, for second place. There were 7 Baltimore colleges represented among the candidates, and 6 of other states. Of the 6 Johns Hopkins men, the lowest received 89. There were 72 questions in obstetrics, hygiene, pathology, anatomy, physiology, practice, therapeutics, materia medica, medical jurisprudence, chemistry, gynecology and surgery. (See the JOURNAL, xxxiii. Dec. 23, 1899, p. 1635, for results of the preceding examinations.)

Baltimore.

THE RESIDENT physicians of the Johns Hopkins Hospital gave a reception and dance at that institution the 29th ult.

DR. J. GIBBONS SMART has been appointed demonstrator of surgery in the College of Physicians and Surgeons.

DR. AND MRS. PEARCE KINTZING gave a reception to the students of the Woman's Medical College, on the afternoon of the 28th ult.

FORTY nurses and the house staff of the Maryland University Hospital were entertained there Dec. 29, 1899, by the Ladies Auxiliary Board.

DR. WALTER JONES, associate in physiologic chemistry and toxicology in the Johns Hopkins University, has returned from a six months' trip abroad, spent in research work.

EXTENSIVE improvements have been made to Provident Hospital, an institution conducted entirely by colored physicians, and the only one of its kind in the state. An auxiliary society of colored women is being organized in its interest.

THE MORTALITY for Baltimore for 1899, was 10,102, nearly 300 less than last year. The greatest number of deaths occurred in January and July; the smallest in November and December. The population of the city is 541,000.

DRS. REID HUNT and Walter Jones, of the Johns Hopkins Medical School, will read papers before the Convention of American Naturalists, at Yale University. Professors Howell and Abell, Johns Hopkins University, will also read papers there, before the section on physiology.

THE NEW building of the College of Physicians and Surgeons was formally opened on the evening of the 20th ult. It had been used for purposes of instruction since Oct. 2, 1899, but only just completed. Addresses were made by Dr. Thomas Opie, dean, the mayor, Dr. Charles F. Bevan, chairman of the building committee, and Prof. William H. Welch, of the Johns Hopkins University.

PENNSYLVANIA.

Two deaths from tetanus have occurred in the region of Stroudsburg, Pa., during the past week. In both instances injury from rusty nails was the supposed cause.

HYDROPHOBIA FROM BITE OF CAT.

Abraham K. Lefever, a farmer, 45 years of age, living near Lancaster, Pa., was bitten on the hand by a stray cat, four months ago. The animal was killed and the wound treated by a physician. It healed and no inconvenience was manifested until the 22d ult., when he began to suffer from pains in the arm, and on the following day spasms set in and death ensued a few days later. Consciousness was preserved to the last.

FRAUD IN EXAMINATIONS.

While only recently a thorough examination was made into the frauds (see JOURNAL, xxxiii, p. 1624) before the State Medical Examining Board of Pennsylvania, it is thought that the real facts in the case were not divulged sufficiently. It is again charged that an organized clique, composed of eighteen students, existed last year, whose business it was to secure the papers previous to the examination, and who in turn were to pay $20 each to the one at the head of affairs who would get the papers for them. It is also charged that there were two graduate physicians who assisted the students in passing the required examination by furnishing certain papers necessary.

Philadelphia.

THE REPORT of the Gynecean Hospital, for the year, show that 197 patients were admitted, and that 339 operations were performed. The cost for maintenance was $17,000.

OWING TO the fear of bubonic plague entering this country, orders were given during the past week to detain here the quarantine ship, *Senator*, which was about ready to proceed to Havana harbor.

THE SEVENTH annual commencement of the training school of the Jefferson Medical College was held Dec. 18, 1899. Dr. W. W. Keen gave the principal address, and a gold medal was awarded by Dr. Edward P. Davis.

ATTORNEYS for the men recently imprisoned for removing the labels from and selling packages of oleomargarin for butter, as noted in the JOURNAL at the time, are making efforts for pardons, although they have served only a little of their sentence.

MOUNT AIRY, a district in the Twenty-second ward, has been pronounced in an unsanitary condition, on account of the lack of sewerage facilities. Certain members of Councils have promised to do all within their power to better its condition. In this district there are 2000 or 3000 people, with no sewers in the district.

MUNICIPAL HOSPITAL.

In the acquisition of ground, on which will be erected buildings for the accommodation of an increased number of patients in this hospital, $35,000 will be spent. This was appropriated by Councils, and it was also recommended that $15,100 be spent for repairs and improvements of the hospital proper, besides $13,900 which has been given for purchasing temporary buildings.

INCREASE IN MORPHIN SALES.

One of the daily papers claims that morphin fiends are increasing, and that the doctors are to blame for encouraging the habit. It says that forty-six drug stores were visited for the purpose of getting information on the subject, and forty-one druggists admitted that an increased amount of morphin was consumed. It is claimed that the law regarding the sale of the drug is openly violated, and that no pretense is made toward ascertaining the name of a purchaser.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended Dec. 16, 1899, shows the total number of deaths to have been 114, of which 66 were white and 48 colored. At the close of the week there were 80 cases of diphtheria; 67 of scarlet fever and 7 of smallpox under treatment; 103 births occurred during the week.

Washington.

WASHINGTON ASYLUM.

Chairman McMillan of the Senate District Committee has approved the recommendation for separating the Washington Asylum Hospital and Almshouse from the workhouse. The association of three different concerns under one head has long been a source of considerable criticism, and has caused unnecessary annoyance and suffering to the poor but innocent who have been mixed up with the criminals committed to the institution. It is to be hoped that Mr. McMillan, as chairman of the Senate District Committee, will secure the necessary appropriation for bringing about this laudable result.

COLUMBIAN UNIVERSITY HOSPITAL.

At the recent meeting of the Board of Governors of this institution the reports of the several officers were submitted, showing it to be in a flourishing condition. The hospital has been in operation but one year, during which time 1079 patients were treated in its dispensary. The pay rooms have been constantly filled. The institution is supported by voluntary subscriptions and donations. At the election the officers of the past year were reappointed.

WOMAN'S CLINIC.

The annual report shows this institution to be [illegible] amount of work, while the attendance greatly [illegible] year. The patients are attended solely by women physicians.

apologies and explanation of their past conduct and inexcusable delay would be required. (see JOURNAL, xxxiii. p. 1178.)

ARMY MEDICAL DEPARTMENT.

The disgraceful short-handedness of the British Army Medical Department, of which so much has been heard, was set forth in cold figures by Surgeon-General Hamilton this week. Forty years ago there were 1100 medical officers on the army medical staff and even that was a scarcely adequate establishment; now with 70,000 more men in the ranks, there are hardly 800! Such figures make their own comment, and the severe object-lesson of the Transvaal War seems likely to produce as great an improvement in the support of the army medical service by a reluctant government as the Cuban campaign has in our own.

CANCER LABORATORY.

Contributions are continuing to come in to the new cancer research laboratory after the generous start given by the £1000 donation of Mr. Davis. The antivivisectionists add their mite, of course, and of the usual helpful quality. Their high priest, Mr. Stephen Coleridge, is out with a letter to the daily papers, in which he dares not openly oppose the laboratory; he makes it the occasion for a venomous attack on the governors of the hospital for diverting funds intended for the direct use of the sick and suffering to "a totally different object," all because the governors, in their appeal for funds for the laboratory, expressed a natural unwillingness to use much of the hospital's subscriptions for this purpose, as they had barely enough to meet expenses now. This is the second time, within the past few months, that he has attempted to divert subscriptions from a hospital to stir up public feelings against it solely because, forsooth, it permitted members of its staff to engage in vivisection! Not even the patient who is attended by a vivisector is to be fed and cared for if he can help it. Love of guinea-pigs seems to be degenerating into something perilously near hatred of humanity.

TRAINED COOKS.

A most sensible suggestion has just been made in the daily press, by the superintendent of the National School of Cookery, viz., that while much has been said of trained field-surgeons, trained nurses and appliances of every sort for the hospitals and hospital ships, nothing has been heard of trained cooks. She is sure that there are many trained in invalid cooking, who would gladly volunteer for service, and whose skill would add greatly to the comfort and chances of convalescence of the sick and wounded. The subject is unquestionably a most important one and has not received its due share of attention in hospital arrangements.

RIGHT TO TITLE OF "PHYSICIAN."

The General Medical Council has had an unusually long and busy session of nearly a week in length. The proposition of the Apothecaries Society, growing out of the lamentable Hunter case, that a friendly test case should be brought before the courts, by the Society and the Council, to settle the question of the right of an L. S. A. to use the title "physician," each partly agreeing to pay its own costs, was, after much wrangling, referred to a special committee with instructions to report back to the Council, in other words, hung up for six months. There appeared little inclination to take any positive steps toward medical reciprocity or admitting foreign practitioners to practice in England, although in deference to the formal action of the English Government in bringing the matter before them, a polite and colorless opinion was expressed that it might be well to refer the question of the advisability of admitting Italy to the privileges provided for in the act to the legal authority, the privy council. Although the provision exists, it has so far only been extended to a few of the larger English colonies.

The Antivivisection Bill.

NEW YORK CITY, Dec. 27, 1899.

To the Editor: Apropos to the announcement of the introduction of Senator Gallinger's antivivisection bill again, I have furnished the following concise and explicit data for Senator McMillan, who is chairman of the committee that will discuss the Gallinger bill. This has been done at the suggestion of a legislator who states that legislative committees give more attention to this form of presentation of a subject than they do to more elaborate and less definite methods of arguments. It is very important that other surgeons and other physicians give a similar account of their personal work immediately.

Yours truly, ROBERT T. MORRIS, M.D.

NEW YORK, Dec. 27, 1899.

Hon. James McMillan:

My Dear Sir: The president of the AMERICAN MEDICAL ASSOCIATION has published an announcement to the effect that Senator Gallinger has again introduced into Congress the bill, "For the Further Prevention of Cruelty to Animals in the District of Columbia"—present Senate Bill No. 34. I assume that members of your honorable committee are already aware of the specious nature of the drawing of the bill, and that they understand its real objects: first, to prohibit vivisection; and secondly, to aid the passage of similar bills in all state legislatures. I assume further that the committee will wish to be guided by brief statements of fact rather than by other sorts of argument, and to that end I have requested some of the members of the medical profession to send to you an account of the advances in medical science that have been made by them personally through the aid of animal experimentation. Herewith is appended a concise account of that part of my work which has been recorded in the literature of the profession:

1.

Peritonitis usually leaves in its train adhesions of the abdominal organs which cause lifelong discomfort and invalidism for the patient. Such adhesions commonly cause also the death of the patient. Surgeons have sought in many ways to find relief for their patients with peritoneal adhesions, and with varying degrees of success—generally with failure. I experimented with rabbits and developed a plan of procedure known as "the aristol film method," that has been accepted as successful by surgeons. To have experimented in this way upon human beings would have been heartless and unsatisfactory, because it was necessary to correct several errors in theory, and this I was enabled to do readily by chloroforming and examining the rabbits at such steps in the experiment as seemed desirable. The outcome of my experimentation has been the direct means for avoiding unsatisfactory experimentation upon thousands of human beings, and it has been the direct means for saving life and preventing suffering on the part of such human beings.

2.

Surgeons frequently have to operate upon appendicitis patients when infection has advanced to such a stage that it is necessary to apply a drainage device. The drainage device necessitates leaving a weak point in the structures of the abdominal wall. Hernia develops at such weak points. By experimenting upon dogs and rabbits I was enabled to devise a plan of procedure which successfully obviates the danger of hernia. My plan of suturing the cecum to the weak point in the abdominal wall in patients would not have received the support of surgeons, because it was believed that dangerous angulation of bowel would occur at such sutured points. My experiments with dogs and rabbits disproved the idea that angulation of bowel would occur, provided that the work was done in a certain way; and this has allowed surgeons to give their patients the benefits of a procedure which obviates much human misery. The method has been widely adopted.

3.

A method for the removal of dead bone by the application of dilute mineral acids has been advocated from time to time by various surgeons, but, for an unknown reason, the treatment was not very successful. By experimenting upon the carapace of a living turtle, I found a cause for the failures, and added a plan of procedure of which surgeons have been glad to avail themselves in the interest of their patients. Without such animal experimentation the cause of failure would probably have remained undiscovered.

4.

After certain abdominal operations surgeons have commonly applied abdominal supporters that were a source of much discomfort for their patients. By experimenting upon rabbits I determined that such supporters could be discarded. The fact would have been discovered eventually in our work upon patients, but my experiment gave an early decision in the matter and patients who would have suffered discomfort are now relieved, as a result of facts brought out by the experiments.

5.

Surgeons discovered that they were aided in a part of their work in the abdominal cavity by touching a part of the bowel with a salt which excited active movement of the muscular

coat of the bowel. This indicated the direction of any given loop of bowel. By experimenting with rabbits for the simple purpose of confirming the widely published reports upon the desirability of this step in progress, I discovered that it was accompanied by a grave danger known as the production of intussusception. By publishing the report upon my discovery surgeons were enabled to avoid subjecting their patients to the grave danger. Incidentally my experiment demonstrated the mechanicism of intussusception. This had been the subject of much discussion in the medical profession, but my experiment can now be done as an object-lesson in the presence of an audience.

6.

Surgeons are experimenting upon patients to discover the best way for curing tuberculosis of the peritoneum. I experimented upon rabbits and developed information which is of much value in the understanding of the subject.

These experiments above noted have been directly of benefit in relieving human suffering. In addition, I have performed many other experiments that gave valuable negative testimony.

As a lover of animals and as a member of a humane profession I have taken as much care to avoid suffering upon the part of the animals as I would be expected to take. My experiments, like those of vivisectors of my acquaintance, have had for their object the single purpose of benefiting humanity. My own work demonstrates only a trifling proportion of the advance that is annually made by surgeons in various parts of the world through animal experimentation. Unfortunately, the men who are doing advance work in the interests of science and humanity usually have such contempt for the methods of the uninformed antivivisectionists that they will not even deign to make a statement of their side of the case, and legislative committees are apt to be influenced by the emotional, well-meaning people who make strenuous effort to convince committees along the lines in which they themselves have been misinformed. The fact that there are physicians among the antivivisectionists is evidence simply of the fact that such physicians have been too much interested in other matters to give attention to the proper acquirement of knowledge upon this subject.

Very respectfully yours,

ROBERT T. MORRIS, M.D.

Professor of Surgery in the New York Post-Graduate Medical School.

Osteopathy in Georgia.

ATLANTA, GA., Jan. 1, 1900.

To the Editor:—I enclose a copy of the veto of Governor Candler of this state, of an act passed by the General Assembly of Georgia at its recent session, providing for the establishment of a board of examiners, authorized to license osteopathic practitioners.

By this wise and patriotic service, the governor has challenged the admiration of the best people in the state, and he surely deserves the appreciative applause of every intelligent citizen, and more especially of every respectable medical practitioner in America.

The act was passed by both branches of the legislature, in spite of the most earnest protests of the medical profession, and was promptly vetoed in response to representations made by the profession embodying reasons why this act should not become a law.

We recognize the fact that in this age of fads, of fakes, of frauds and of cranks, this skirmish is but the opening of the fight. The effect of the successful circumvention of our present laws would be their practical destruction; this wedge would have led the way to other incursions, and would have amounted to the virtual repeal of existing statutes regulating medical practice.

The governor is certainly entitled to the thanks and to the cordial commendation, not only of the medical profession, for his praiseworthy interposition, but also of every person without the ranks of the profession, who reveres his country and who loves his fellow-man.

JAMES B. BAIRD, M.D.,

Chairman, Com. on Medical Legislation, Med. Assn. of Ga.

The following is the veto, which was also referred to in the JOURNAL of Dec. 30, 1899, p. 1659, and is editorially commented on this week.

VETO OF ACT NO. 173, ENTITLED "AN ACT REGULATING THE PRACTICE OF OSTEOPATHY IN THE STATE OF GEORGIA."

I withhold my approval from this bill because, aside from the objection that it advertises one particular school, "The American School of Osteopathy of Kirksville, Missouri," there is no necessity for such an enactment. It provides among other things, for the creation of another Medical Examining Board in the State. There are already three of these boards, and any graduate of any "lawfully chartered Medical College" may go before either of them, present his diploma and be examined. If he passes an examination satisfactory to the Board, the members of which are selected because of their eminence in the profession and their skill in medical science, he is authorized to practice medicine anywhere in this State and apply any treatment he may deem best, including the methods of Osteopathy. If he is not a graduate of a reputable medical college and can not pass a satisfactory examination in the usual branches of medical education, he ought not to be licensed to engage in the practice of medicine.

A. D. CANDLER, Governor.

Dec. 21, 1899.

The Army Ration.

SAN JUAN, P. R., Dec. 27, 1899.

To the Editor:—As a supplement to the article by my scientific friend, Colonel Smart, on the Army Ration (see JOURNAL, xxxiii, p. 1507), let me add a few practical observations gathered in Porto Rico.

Duty has taken me at one time or another since the first days of the American invasion into almost every town from Ysabela, on the northwest coast, to Humacao, on the east coast and then up the military road to this capital. In the district of Guyama and southern Humacao it was part of my business to investigate the cause of deaths among the natives.

Everywhere I found the main causes assigned to be anemia and phthisis. Everywhere I went I was struck by this ever-prevalent anemia. The pale, yellowish, waxy skin, the bloodless lips and swollen puffy features formed a picture never seen by me out of tropical Porto Rico. Yet I soon found that these people had been living on rice, beans, maize, dried codfish and fruits. Meat very rarely entered into their diet. They and their fathers before them had lived exclusively on the diet urged by the public press as suitable for tropical climates, and the result filled the hospitals with such ghastly cases of anemia that no one who has once seen the picture can ever forget the impression. On the other hand, I soon discovered that the people who lived in the towns and could afford it, eat two hearty meat meals daily. These people, I believe, used more meat than we used in American cities, and there is no doubt in my mind that I have used more meat, and felt more need for it, since I have been here than I ever used in the same time in the United States. Yet I am one of the few who did not have to go home on account of ill health; the natives who eat in the hotels with me, and as freely as I do, are perfectly healthy individuals, and show not the least trace of anemia.

Only a few days since, a native informed me, with much gusto, that one of the best things that Porto Rico affords is *chuleta de cardo*—pork chops—surely one of the most unsuitable articles of diet for a tropical climate, as our physiologic friends will tell us, and yet the absence of this, in my opinion, made that native anemia to a noticeable degree.

These observations are so common in this climate, and have been so forcibly impressed on me that I feel more and more the wisdom of going very, very slow in urging alterations in the rations.

Very respectfully,

P. R. EGAN, Asst. Surg. U. S. A.

Hydrogen Dioxid in Burns.

OBERLIN, OHIO, Dec. 27, 1899.

To the Editor: In connection with Dr. Bulkley's paper in the JOURNAL of Dec. 23, 1899, I want to give voice to a use for hydrogen dioxid that has been too little known. The idea was original with Dr. Geo. W. Crile, of Cleveland, Ohio, and I am only giving his suggestion and my own experience with it.

Gunpowder burns are very troublesome things, and the ordinary treatment has usually failed to prevent the tattoo stain remaining permanently. Dr. Crile's suggestion is to apply peroxid on the first or second day after the burn, and to

that it gets thoroughly into the center of each pigment spot. The application is practically painless, and the consequent bubbling removes the inorganic remains of the powder. I have found it necessary to prick each point thoroughly open, and have used the solution of U. S. P. strength with perfect results, absolutely no pigment remaining. Very truly,

C. H. BROWNING, M. D.

Pathologic Exhibit for A. M. A.

LOUISVILLE, KY., Dec. 28, 1899.

To the Editor: It gave me great pleasure to read in the JOURNAL of Dec. 2, 1899 (see JOURNAL, December 16, p. 1564, December 23, p. 1630) a letter from Dr. Frank B. Wynn, re-relating to a section on pathology in the ASSOCIATION. No one feature could be of more interest than this. It encourages study in this special department, and by an exhibit profits the whole profession.

The Indiana State Medical Society deserves great credit for starting this project, and the display last June was of great interest to all of us. I hope, therefore, that the suggestion of Dr. Wynn will be carefully considered, and that each state society may follow in this very worthy undertaking.

Respectfully,

JOSEPH M. MATHEWS, M.D.

Association News.

Competition for the American Medical Association Medal.—At the meeting of the AMERICAN MEDICAL ASSOCIATION, held June 4, 1897, it was resolved to restore the former policy of the ASSOCIATION in favor of offering annually a gold medal for meritorious scientific work. The committee for this year, consisting of Drs. George M. Gould of Philadelphia, E. Fletcher Ingals of Chicago and T. W. Huntington of Sacramento, Cal., desires to direct attention to the following rules governing the competition:

1. The medal shall contain the seal of the United States or a seal of the ASSOCIATION, to be hereafter designed, on one side and an Esculapian staff on the other, together with the name of the recipient of the medal and suitable inscriptions.

2. The commercial value of the medal shall be $100.

3. A standing committee on prize medals, consisting of three members of the ASSOCIATION, shall be elected by the Business Committee as follows: One for one year, one for two years and one for three years, and thereafter one to be elected yearly to hold office until in either case his successor has been duly elected. In no case shall a member of the Business Committee hold a place on the Committee on Prize Medals.

4. The competing essays shall be typewritten or printed and shall bear no mark revealing their authorship; but instead of the name of the author, there shall appear on each essay a motto, and accompanying each essay shall be a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope is to be opened by the Committee until a decision has been reached as to the most deserving essay, and the other essays have been returned to their respective owners. The Committee shall have authority to reject and return all essays in case none have been found worthy of the ASSOCIATION medal. Competing essays must be in the hands of the Committee not later than March 1, 1900. For further information address any member thereof.

Book Notices.

THE CRANIAL AND FIRST SPINAL NERVES OF MENIDIA.—A Contribution on the Nerve Components of the Bony Fishes. With Seven Plates. By C. Judson Herrick, Associate in Comparative Neurology, Pathological Institute of the New York State Hospitals. State Hospital Press, Utica, N. Y., 1899.

This monographic work, which has appeared simultaneously in the latest issues of the *Archives of Neurology and Psychiatry*, and the *Journal of Comparative Neurology*, is a study of the cerebral developments of one of the lower vertebrates. Its interest to physicians and medical students is in the light it, with other similar investigations, throws on the origin and development of the like organs in the higher vertebrates and in man, and it is only within the aid of such researches that we can properly understand the questions that arise especially in relation to the brain and nervous system in medicine and in human anatomy and physiology. The broad culture that a medical teacher or investigator should possess necessarily requires a knowledge of comparative anatomy, the more thorough the better. In neurology this is perhaps more obviously true than in other special departments, but it is true in all. The study of evolution is, as Herrick points out, a useful supplement to the study of pathology, showing, as it were, an experiment of Nature carried out in detail over an indefinite period of time, as compared with the rapid course, and our consequent lack of ready grasp of processes of disease. The utility of such works as these to the medical man is therefore obvious, though it may not be every practitioner who can command the time for their thorough study. To the working neurologist some acquaintance with them ought to be indispensable. This study was awarded the Cartwright prize for 1899, by the Alumni Association of the College of Physicians and Surgeons, Columbia University, New York.

TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES. By E. Korschelt, Professor of Zoölogy and Comparative Anatomy in the University of Berlin. Vol. I: Porifera, Cnidaria, Ctenophora, Vermes, Enteropneusta, Echinodermata. Translated from the German by Edward L. Mark, Ph.D., Hersey Professor of Anatomy in Harvard University, and W. McM. Woodsworth, Ph.D., Instructor in Microscopical Anatomy in Harvard University. Vol. II: Phoronidea, Bryozoa, Ectoprocta, Brachiopoda, Entoprocta, Crustacea, Palæostraca. Vol. III: Arachnida, Pentastomidæ, Pantopoda, Tardigrada, Onychophora, Myriopoda, Insecta. Translated from the German by Matilda Bernard. Revised and edited with additional notes by Martin F. Woodward, Demonstrator of Zoölogy, Royal College of Science, London. London: Swan, Sonnenschein & Co., Ltd. New York: The MacMillan Co. 1899.

This translation of a leading German work on embryology will be welcomed by English-speaking biologists, and while it is not exactly in the direct line of medical study, it should be also valuable to a large section of our profession. Comparative embryology, even more than some other departments of zoölogic study, is a close collateral to medicine, and no physician will be the worse for an acquaintance with this subject. The three volumes here presented give one of the most complete, available presentations of the subject in our language, and with the coming fourth volume, which will probably soon appear, will form a standard authority covering the whole ground of invertebrate embryology.

The translators and editors, both American and English, have done their work well, and their additions bring the subject up to our present knowledge. One can not but regret, however that it was ever originally written in German. The controversy as to the signification of the word *Anlage* is familiar to all readers of recent English and American scientific literature and here we have it translated by different words in the first and second and third volumes, respectively. As the editors call special attention to this fact, and to other terms loosely employed by the Germans, no harm is done, but it would have been better for scientific purposes had the original language been as definite and exact as some others.

Each volume has its own index, and is complete in itself. The work as a whole, as far as translated, is a most valuable addition to morphologic literature in our language, and one that we trust will have the reception it deserves.

BACTERIA: ESPECIALLY AS THEY ARE RELATED TO THE ECONOMY OF NATURE, TO INDUSTRIAL PROCESSES AND TO THE PUBLIC HEALTH. By George Newman, M.D., F.R.S. (Edin.), D.P.H. (Camb.), Etc. Demonstrator of Bacteriology in King's College, London. Illustrated. New York: G. P. Putnam's Sons. 1899.

This volume in the Science Series published by Putnam's Sons in New York and Murray in London, gives a very excellent popular statement of the present state of our knowledge re-

garding bacteria. While not written as a laboratory text-book, it will doubtless find its way into many physicians' libraries, and the dissemination of its information among general readers can not fail to be of benefit. There is too much newspaper misinformation in regard to germs and the diseases they produce, hence the value of popularizing works like this, that are also scientific as well as popular. The style of the book is good and its make-up, uniform with the others of the series, is attractive. The illustrations are fairly numerous and assist the text.

MANUAL OF DISEASES OF THE NOSE AND THROAT. By Cornelius Godfrey, A.M., M.D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Illustrated with 92 engravings and 2 colored plates. New York and Philadelphia: Lea Brothers & Co. 1899.

This appears to be a very convenient compendium of nose and throat disorders, though hardly a work that would fully satisfy one who wished to go very deeply into the subject. Its advantages, however, to the student and general practitioner, will doubtless make it popular and useful. It is well illustrated, the style and descriptions are clear, the therapeutics up-to-date and the author has added, at the end of the book, a short chapter of formulæ with explanatory text, which will be found of service.

Deaths and Obituaries.

ELLIOTT COUES, M.D., died Dec. 25, 1899, in Baltimore, Md. He was born in Portsmouth, N. H., in 1842, graduated from the Columbian University and the National Medical College, Washington, D. C.; served as surgeon in the United States Army from 1862 to 1865; was professor of zoölogy and comparative anatomy in Norwich University, Vermont, in 1869; professor of anatomy in the National Medical College, Washington, D. C., from 1877 to 1887; professor of biology in the Virginia Agricultural and Mechanical College in 1883. As an author, he was best known by his scientific works, and issued hundreds of papers and books in the various departments of zoölogy. As an ornithologist, he ranked among the first in the world, and his contributions were recognized by his being made a member of some fifty or more foreign and American learned societies. He was connected with various government expeditions, and had been editor of a number of historic works in recent years. He was one of the leading collaborators of and contributors to the Century Dictionary. While these show his general wide range of knowledge and versatility, it may also be said that he dipped into various extra-scientific subjects, such as theosophy, in which he was one of the leaders in this country, and took part in the exposition of the noted Mme. Blavatsky. Of late years he apparently took less interest in this, but was still interested in various subjects beyond the average understanding, while also keeping up his scientific contributions of the highest merit. Since 1864 he had been one of the most prominent naturalists and scientific men of this country, and notwithstanding his excursions into other fields he had maintained and increased his reputation in this regard so that his fame is world-wide.

WILLIAM BUCKINGHAM CANFIELD, M.D., Baltimore, Md., editor of the *Maryland Medical Journal*, died in New York City on the 26th ult. A month before, while in New York City, he fell from a step, fracturing his skull. For a time he improved, but meningitis developed. His family was related to Governor Buckingham of Connecticut and descended from Governor Leete, a colonial governor of the same colony. Dr. Canfield was a son of a jeweler and was born in Baltimore in 1857, took the degree of A.B. at Princeton, and his M.D. at the University of Maryland in 1880, and later from the University of Berlin. He was lecturer on clinical medicine at the University of Maryland, and had been editor of the *Maryland Medical Journal* about eight years. He was one of the founders and attending physicians of the Hospital for Consumptives, diseases of the chest being his special field.

DAVID L. HUNTINGTON, M.D., lieut-colonel U.S.A. (retired), died in Rome, Italy, Dec. 20, 1899. He was born in Charleston, Mass., in 1834, and was a graduate of Yale, class of 1855, as well as subsequently from the University of Pennsylvania's medical department. At the beginning of the Civil War he was appointed an assistant-surgeon in the regular army, served on General Grant's staff, and, as medical director, accompanied General Sherman on his march to the sea. At the close of the war he was stationed at different forts in the West, fought with the Indians, and in 1876 was assigned surgeon-in-charge of the Soldiers' Home in Washington, D. C. He also, in the meantime, acted in the capacity of assistant-surgeon general, as well as that of acting surgeon-general, U. S. A. For some years before his retirement, which dated from April, 1898, he was in charge of the U. S. Army Medical Museum, and in that capacity contributed largely to the medical and surgical records of the Civil War. After his retirement, which was after a continuous and exceptional service of thirty-six years, Lieut.-Colonel Huntington lived abroad with his wife, son and daughter.

GUSTAVUS STORRS WINSTON, M.D., College of Physicians and Surgeons, New York City, 1863, died at his home in New York City, Dec. 29, 1899, aged 66. He was the son of Frederick S. Winston, the president for many years of the Mutual Life Insurance Company. Of this company Dr. Winston was medical director for about twenty-five years, and a great part of the time was the ranking official of his bureau. As a judge of values in life risks he was scarcely equaled and rarely criticised.

CHRISTOPHER SOUDER, M.D., Larwill, Ind., died Dec. 14, 1899, at the age of 57 years. During the Civil War he served in Company E, 44th Indiana Volunteer Infantry, and was wounded in the battle of Chickamauga, and was also in the battles of Fort Donelson and Pittsburg Landing. He was a graduate of the Cincinnati Medical College, class of 1870.

HENRY F. GEHRING, M.D., Starling Medical College, Columbus, Ohio, 1884, of Chateaugay Lake, died at Malone, N. Y., Dec. 30, 1899, from blood poisoning following an operation performed by himself a few days before.

JONATHAN M. HIGGINS, M.D., University of Pennsylvania, 1861, died in Philadelphia, Dec. 15, 1899, aged 58. He was long identified with the schools of his vicinity.

NEWTON H. RITTER, M.D., formerly a practicing physician at Philadelphia, and a graduate of the Jefferson Medical College, class of 1884, died near Wernersville, Pa., Dec. 16, 1899, aged 50 years.

WILLIAM L. RUSSELL, M.D., Baltimore, Md., died on the 21st ult. of nervous prostration superinduced by la grippe. He was 65 years of age. He received the degree of M.D. at the University of Maryland in 1869.

F. C. RAINER, M.D., Fort Scott, Kan., a graduate of Starling Medical College, Columbus, Ohio, was accidentally killed while hunting, Dec. 15, 1899.

HENRY G. SAUNDERS, M.D., Grand Rapids, Mich., a graduate of the medical department of the University of the City of New York, class of 1847, died Dec. 22, 1899, aged 80 years.

REED CARRINGTON, M.D., a graduate of the Medical College of Virginia, 34 years of age, died at his home near Sandidges, Va., Dec. 19, 1899.

WILLIAM M. RALSTON, M.D., Horton, Kas., a graduate of Rush Medical College, Chicago, class of 1886, died Dec. 6, 1899, at the age of 41 years.

CASPER SCHEURMANN, M.D., who was born in Germany in 1834, and has been in this country thirty-four years, died in Milwaukee, Wis., Dec. 21, 1899.

WALTER BOARDMAN, M.D., Lancaster, Pa., died suddenly, Dec. 16, 1899. He was a graduate of Jefferson Medical College, class of 1883.

JESSE C. MILLER, M.D., Marklesburg, Pa., a graduate of the Jefferson Medical College, class of 1884, died suddenly Dec. 21, 1899.

THOMAS O'CALLAGHAN, M.D., Jersey City, N. J., died Dec. 27, 1899, in New York City, while making a professional call.

O. B. GRIGGS, M.D., formerly of Willimantic, Conn., died at Providence, R. I., at the age of 77 years, Dec. 22, 1899.

WILLIAM GRIFFIN, M.D., Carver, Minn., died while on a visit to Superior, Wis., Dec. 24, 1899.

A. P. WALZLE, M.D., Jersey City, N. J., and formerly of Easton, Pa., died Dec. 18, 1899, aged 47 years.

STUART B. CARLISLE, M.D., Mt. Vernon, N. Y., aged 51 years, died in New York City, Dec. 8, 1899.

T. J. HOLBROOK, M.D., Morrisville, Vt., aged 64 years, died Dec. 17, 1899.

SAMUEL M. HERR, M.D., Lancaster, Pa., died Dec. 22, 1899, aged 38 years.

HARRY COWAN, M.D., Danville, Ky., aged 38 years, died the 20th ult.

ALFRED J. BOYD, M.D., Watertown, N.Y., aged 33 years, died Dec. 11, 1899.

WILLIAM CAMP, M.D., Middleton, N. Y., aged 57 years, was found dead Dec. 21, 1899.

W. W. BRYANT, M.D., Sycamore, Ill., died Dec. 19, 1899, aged 67 years.

C. O. MATHEWS, M.D., Dennison, Texas, died Dec. 14, 1899, aged 39 years.

NEIL MCKECHNIE, M.D., Holdredge, Neb., died Dec. 21, 1899, suddenly.

JOHN WHEELER, M.D., Birmingham, Ala., was murdered Dec. 22, 1899.

JOHN A. P. BAKER, M.D., Abingdon, Va., died Dec. 21, 1899.

J. H. PHARES, M.D., Clinton, Ia., died suddenly, the 12th ult.

DEATHS ABROAD.

SIR JAMES PAGET, the eminent surgeon, died in London, Dec. 30, 1899, at the age of 86 years. For nearly half a century he had been one of the leaders in the medical profession of London. He was born in Yarmouth, in January, 1814, and was the son

SIR JAMES PAGET, Bart.

of a merchant of that town. He studied at St. Bartholomew's Hospital, and became a member of the Royal College of Surgeons in 1836, and an Honorary Fellow in 1843. He held appointments of lecturer on physiology and surgeon to St. Bartholomew's Hospital, and professor of surgery and anatomy at the Royal College of Surgeons. He was a Fellow of the Royal Society, vice-chancellor of the University of London, and consulting surgeon to St. Bartholomew's Hospital, sergeant-surgeon to the Queen and surgeon to the Prince of Wales. He received the honorary degree of D.C.L. from Oxford and that of LL.D. from Edinburgh, and in 1871 he was created a baronet. In his earlier studies he paid much attention to pathology, and it was mainly through his efforts that its importance was recognized. His "Lectures on Surgical Pathology," a work which passed through many editions, was for many years used as a text-book in both English and American colleges. In 1857 he delivered the Croonian Lecture, the Hunterian Oration in 1875, the Bradshaw Lecture in 1882, and the Morton Lecture in 1887. He was president of the International Medical Congress held in London in 1881. He resigned his hospital positions in 1875, and since that time had devoted himself to consultation practice and scientific study. Although advanced in years, he remained an untiring student in all branches of science up to the time of his death. Besides his skill as a surgeon, he was known as a brilliant orator, and his gift of eloquence has been transmitted to his two sons, one of whom is dean of Christ Church, the other vicar of St. Pancras.

SIR THOMAS THORNE-THORNE, London, England, died Dec. 18, 1899, aged 58, his death being sudden. At the time of his demise he occupied a position of honor and responsibility, that of principal medical officer to the Local Government Board (London). He has been a leading spirit in quarantine work, or rather against the system of quarantining adopted by many nations, his view being that every nation should have proper facilities for dealing with contagious diseases in all ports.

DR. SCHNIZLEIN, a prominent practitioner in Munich, is dead.

J. MITWALSKY, privat-docent of ophthalmology at Prague, died recently.

DR. AZAM, professor of pathology at Bordeaux, is dead.

A. BRUJEW, professor of dermatology at Charkow, died recently.

Miscellany.

Best Method of Gaining Strength.—With several other physical directors, Dr. W. G. Anderson of Yale has been carrying on a series of observations in order to determine the kind of exercise best to develop the physical strength of athletes. It was found that baseball players were the only ones who lost weight during their season of training. The track athletes and the gymnasts gained most rapidly.

Development of Eastern and Western Women.—As a result of anthropometric measurements of the girls at Wellesley College, and the University of Nebraska, Dr. J. W. Seaver has noted certain differences in the physical proportions. He is quoted as saying that the Wellesley girl has the smaller chest girth, while the Nebraskan is deeper chested and is particularly stronger in lung capacity. In height, the Wellesley girl leads. There is an interesting difference in the heads of the two types; that of the Wellesley girl is much larger; she is flat-headed. He accounts for the difference in the types by the predominance of Teutonic blood in the West.

Diagnosis of Incipient Tuberculosis and Croup in Children.—A Greek confrère writes to the *Annales de Med. et de Chir., Inf.* (July 15, 1899) that he has succeeded in correctly diagnosing many dubious cases in young children by inducing a coughing spell with a spoon inserted in the throat. This brings up more or less sputum, which is then taken up on a cotton wad for microscopic examination. The spoon can be inserted in the space back of the last molars in older children. By this means a positive result is attained in many cases in which examination of the mouth had been negative.

Can Testify as Non-Expert.—Among the witnesses who testified as non-experts in Commonwealth vs. Cressinger, first testifying to their acquaintance and opportunities of observation of the prisoner, and then being asked whether, from such acquaintance, they had observed any indications of unsound mind, which the Supreme Court of Pennsylvania holds admissible, was one who was a physician. It was especially objected that the jury would be impressed with that fact in weighing his testimony. But the supreme court holds that it would be quite proper that they should be. He was not called as an expert, nor did he testify as such, but as a neighbor, who had employed and observed the prisoner. To this, the court adds that he was competent, and admitted on the same ground as the others who were allowed to testify as non-experts, and his education and practice as a physician merely made it probable that his opinion was more valuable than that of ordinary observers.

Within Terms of Policy.—A controversy arose in the case of the Standard Life and Accident Insurance Company vs.

Schmaltz, whether the death for which it was sought to recover on a policy of insurance resulted from injuries caused by external, violent, and accidental means. At the time he was injured, the insured was a strong, healthy, active, muscular man, weighing from 170 to 175 pounds. He had occupied the position of railroad machinist for seven or eight years, and had frequently lifted cylinder heads from engines without accident or injury, as other machinists had also been accustomed to do. Yet, while removing, in the usual way, one that weighed about 80 pounds, which, having loosened with a steel bar, he sought to catch, in order to prevent it from falling, he ruptured a blood-vessel in his stomach, causing his death. Under these circumstances, the supreme court of Arkansas holds that the jury was warranted in finding that the death was caused by "external, violent, and accidental means." Nor does it consider that, this being so, the insurance company was exempted by a stipulation in the policy sued on that it did not cover injuries from overexertion, wrestling, lifting, unnecessary exposure to danger, as one of the duties of the machinist was to remove cylinder heads, and the company insured him in that occupation.

Acute Diabetes in Boy of Five Years.—In the *Lancet* for Dec. 23, 1899, p. 1735, is reported, in detail, a case of very acute diabetes in a child 5 years of age. While diabetes in children is not uncommon, the case is of note for several reasons: 1. Nothing wrong with the child was noted until ten days before admission to the hospital, and then only constipation. Five days after this the symptoms led the patient's parents to suspect something was the matter, but not until two days before admission did they feel any alarm and call in medical aid. 2. The only urinary symptom noted by the parents was incontinence of urine for two nights preceding admission. Albumin was present with the sugar, a combination giving a very bad prognosis. 3. Heredity was not a factor in this case. 4. The sweet smell in the breath, said to indicate impending coma, did in this patient, the coma following muscular weakness, drowsiness and a rapid breathing.

Causes of Twin Pregnancies.—D. Ghelline observes that these, in a single ovum, only occur once in 700 ordinary deliveries, while other twin pregnancies are noted in 90, on an average. The frequency of malformations in the uni-ovular twin pregnancies also indicates that it is an abnormal process. Multi-ovular vesicles can not be considered the cause of multiple gestations—two ripe ovules have never been noted in a single vesicle in woman—and even in multiparous animals, multi-ovular vesicles are rare and the number of ovules is always less than the number of the litter. There is a difference in animals between the ovaries of multiparous and uniparous females. In the first the specific, ovigenic tissue of the ovary predominates, while in the others the stroma is more abundant. Twin pregnancy can therefore be attributed to the predominance of the germinal epithelium over the stroma. The more ovules and the less stroma the more vesicles ripen and the more frequently they burst. If this law is true, twin pregnancies should accompany multiparity, which is what is actually observed. From the biologic point of view, therefore, Ghelline asserts that twin pregnancies are an atavistic phenomenon, while single pregnancies indicate the predominance of stroma, a more advanced stage of development.

Examining Physician's Report.—The examining physician, who was an officer of a local branch of a fraternal association issuing life insurance certificates to its members upon the assessment plan, made a personal examination of a member at the time of his application for insurance, and made a long written report, in answer to questions, as to such member's physical condition, in which he gave a very favorable account of his health. This report was offered in evidence by the association on the trial of an action on the certificate issued on the life of the member, in connection with, and as part of, the application. Thereafter the plaintiff in the case asked one of the medical experts a hypothetic question based on the facts stated in the physician's report, and the defendant association objected on the ground that the paper was not evidence of the facts stated in it, but only of the fact that such a report was made. The judge overruled the objection, and held that the statements in the report were in the nature of admissions by the association of the facts therein stated, not conclusive, but competent to go to the jury on the subject. And the Supreme Court of Wisconsin now holds that this ruling was correct. It says, McGowan vs. Supreme Court of Independent Order of Foresters, that the statements were made by one of the defendant's officers, as a part of his official duties, and within the scope of such duties. Such statements, it continues, are plainly statements of the company or association itself, and must be regarded as upon the same plane as the admissions of agents generally, made during the transaction of the agency business, and within its scope, which are deemed parts of the *res gestæ*, or essential circumstances of the transaction.

Proposed Investigation of Native Drug Plants of the United States.—The Secretary of Agriculture, Hon. James Wilson, has embraced the following paragraph in his annual report which, in more particulars than one, is of interest to the medical profession:

The collection of the native drug plants in the United States, considered from a purely financial standpoint, aside from medical and humanitarian aspects, involves the expenditure of millions of dollars annually. The commercial extermination of some of the most useful species is already threatened, and doubtless others would be found in the same conditions were the facts known. The price of one native plant, ginseng, our exports of which average more than a million dollars annually, has more than quadrupled in the past thirty years, so that its cultivation, as urged four years ago by this Department, has now become profitable. It is clear from this and many similar cases that the native drug industry is capable of either decline or improvement, according to the way in which we handle it.

The Pan-American Medical Congress has recently submitted to me a proposition to co-operate with this Department in a the facts known. The price of one native plant, ginseng, our native drug plants. By accepting this proposal we shall secure, in a research of which we have long felt the need, the cordial assistance and support of an influential association of learned physicians; we shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the great growth and growing trade in drugs between the countries of North America and South America. I urge the appropriation of $10,000 to enable this Department to co-operate in this investigation. (See p. 19.)

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., December 15 to 21, 1899, inclusive:

Dallas Bache, colonel, assistant surgeon-general U. S. A., president of a board convened at Washington, D. C., to examine medical officers for promotion.

William W. Calhoun, acting asst.-surgeon, from Washington, D. C., to the Department of California.

Edward C. Carter, major and surgeon, U. S. A., member of board at Washington, D. C., to examine medical officers for promotion.

Joseph B. Chmelicek, acting asst.-surgeon, from Fort Winfield Scott, Cal., to New York City, for annulment of contract.

Carl R. Darnall, lieutenant and asst.-surgeon, U. S. A., previous orders relieving him from duty in the Division of Cuba revoked.

Edward Everts, captain and asst.-surgeon, U. S. A., to report at San Francisco, Cal., for examination for promotion.

William H. Forwood, colonel, asst. surgeon general, U. S. A., president of a board at San Francisco, Cal., to examine medical officers for promotion.

E. P. Geddings, acting asst.-surgeon, relieved from the Division of Cuba to report for duty at Fort Wood, N. Y.

Robert J. Gibson, major and surgeon, U. S. A., member of a board at San Francisco, Cal., to examine medical officers for promotion.

Alfred C. Girard, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine medical officers for promotion.

Stephen M. Gonzalez, acting asst.-surgeon, from New York City to Pensacola, Fla., for annulment of contract.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City, to amend the regulations of the army transport service.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board in Washington, D. C., to examine medical officers for promotion.

Edward Lyon, Jr., acting asst.-surgeon, leave of absence extended.

James E. Miller, acting asst.-surgeon, previous orders directing him to proceed from Des Moines, Ia., to the Department of California revoked.

Edward L. Munson, captain [illegible] S. A., in addition to his present duties at [illegible] D. C., is assigned as commanding officer [illegible] s company of instruction at that post.

[illegible] .ptain and asst.-surgeon U. S. A., to report at [illegible] or examination for promotion.

[illegible] captain and asst.-surgeon, U. S. A., to report [illegible] C., for examination for promotion.

John W. Thomas, acting asst.-surgeon, from Key West, Fla., to temporary duty at Fort McPherson, Ga.

William J. Wakeman, captain and asst.-surgeon U. S. A., to report at Washington, D. C., for examination for promotion.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending December 23, 1899:

P. A. Surgeon W. M. Wheeler, detached from duty at the naval hospital, New York, and ordered to the *Vermont*.

Asst.-Surgeon H. A. Dunn, detached from Port Royal Naval Station on reporting of relief, and ordered home to wait orders.

Asst.-Surgeon M. S. Elliott, detached from the *Vermont*, on reporting of relief, and ordered to duty at the Port Royal Naval Station.

Asst.-Surgeon E. Davis, ordered to duty at the naval hospital, New York.

Asst.-Surgeon W. L. Bell, detached from the *Independence*, December 31, and ordered to the Island of Guam on the *Scindia*.

Surgeon H. T. Percy, ordered to the Norfolk navy yard, January 4.

Surgeon H. E. Ames, detached from the Norfolk navy yard, on reporting of relief and directed to proceed home and to be ready for orders to sea service.

CHANGES BY CABLE FROM THE ASIATIC STATION.

Medical Inspector R. C. Persons, detached from the *Brooklyn* and ordered to the *Baltimore*.

Medical Inspector G. E. Harmon, detached from the *Brooklyn* and ordered to the *Baltimore*.

Surgeon O. D. Norton, detached from the *Solace* and ordered to the *Monadnock*.

P. A. Surgeon C. H. T. Lowndes, detached from the *Princeton* and [illegible]

P. [illegible] detached from the *Monadnock* and order[illegible] the *Solace*.

Asst.-Surgeon C. D. Langhorne, detached from the *Monterey* and ordered to the *Princeton*.

MARINE-HOSPITAL CHANGES.

Official list of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital service for the seven days ending Dec. 21, 1899.

Surgeon Eugene Wasdin, granted leave of absence for one month and fifteen days to take effect on or about Jan. 15, 1900.

Surgeon J. H. White, detailed under the provisions of the Act of Congress, approved March 2, 1899, as a member of a commission to investigate the origin and prevalence of leprosy in the United States.

P. A. Surgeon G. T. Vaughan, detailed under the provisions of the Act of Congress, approved March 2, 1899, as a member of a commission to investigate the origin and prevalence of leprosy in the United States.

P. A. Surgeon J. B. Stoner, granted leave of absence for 7 days from December 23.

P. A. Surgeon M. J. Rosenau, detailed under the provisions of the Act of Congress approved March 2, 1899, as member of a commission to investigate the origin and prevalence of leprosy in the United States.

Asst.-Surgeon F. E. Trotter, to proceed to Tortugas Quarantine and report to medical officer in command for temporary duty.

Acting Asst.-Surgeon J. M. Keyes, granted leave of absence for 30 days from December 16.

Acting Asst.-Surgeon Jay Tuttle, granted leave of absence for 30 days, to take effect on or about January 2, 1900.

Hospital Steward N. C. Comfort, relieved from duty on steamer *Wapiti*, and directed to proceed to Louisville, Ky., and report to medical officer in command for duty.

BOARD CONVENED.

A board of officers will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, Feb. 7, 1900, for the purpose of examining candidates for admission to the grade of assistant-surgeon in the U. S. Marine-Hospital Service.

Candidates must be between 21 and 30 years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character.

The following is the usual order of the examination: 1, physical; 2, written; 3, oral; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment, the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, assistant-surgeons are entitled to examinations for promotion to the grade of passed assistant-surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant-surgeons receive sixteen hundred dollars; passed assistant surgeons, two thousand dollars; and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty or fifty dollars a month, according to grade, is allowed.

All grades above that of assistant-surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address, the Supervising Surgeon-General, U. S. Marine-Hospital Service, Washington, D. C.

CHANGE OF ADDRESS.

Booth, C. C., from Youngstown, O., to Eau Gallie, Fla.
Brown, G. M., from 298 Maxwell, to Provident Hospital, Chicago.
Delaup, S. P., from 3218 to 833 St. Charles St., New Orleans, La.
Dunn, B. S., from Boston, Mass. to Whitestone, N. Y.
Goodwin, W. H., from Indianola to Fairmount, Ill.
Hickes, C., from Caborn to Mt. Vernon, Ind.
Kahn, C., from Elgin to 402 S. Eastern Ave., Joliet, Ill.
Kirkland, B. F., from Mt. Auburn to Dysert, Ia.
Lowenthal, L. L., from 877 W. Polk to 473 Ogden Ave., Chicago.
Nielson, C., from 804 North to 3651 Wentworth Ave., Chicago.
Pope, J. G., from Coleman to Backwood, Texas.
Prestley, J. B., from 412 S. Leavitt to 918 W. Van Buren Street, Chicago.
Sturm, A. B., from House of Correction to German Hospital, Chicago.
Wills, J. T., from Erie to Sulphur Springs, Colo.
Wyland, G. V., from Marcellus, Mich. to 329 W. Erie St., Chicago.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the JOURNAL free Subscribers to the JOURNAL may become members of the ASSOCIATION without expense if they are members of recognized medical societies, and those desiring to have their names transferred to the membership list should send certificates as above, with a receipt for their subscription to the JOURNAL, covering the current fiscal year.

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The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the JOURNAL for the full year, even though the membership be not continued.

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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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Articles are accepted for publication with the understanding that they are contributed solely to this journal, unless a definite understanding be had to the contrary.

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Address.

MEDICINE AND LAW.*

BY DUNCAN EVE, M.D.

NASHVILLE, TENN.

From my earliest recollection the science of medicine was to me a charm and a fascination, as presenting instrumentalities, agencies and opportunities of greatest good to the human family. Hence I should be singularly inappreciative, if I did not esteem the honor of presiding over the deliberations of this august body, assembled from the various states composed of and bordering the great Mississippi Valley, to advance our noble calling and thereby promote the happiness of our fellow man, as one of the most grateful of my life. Thus influenced, it is but natural that I should now wish to suggest something that, perchance, might be useful and pleasingly remembered.

The sciences of medicine and law are confluent and blend in the splendid duality of medical jurisprudence, and it is to be regretted that so few members of the two professions give this subject the attention which its importance demands. A knowledge of this science is imperative and should be understood by every physician and surgeon for his own safety and protection.

A discussion of this subject would be especially appropriate in Chicago, where, notwithstanding the medical profession takes front rank and is distinguished for names that can never be forgotten, yet its members are tortured to martyrdom by suits for malpractice, thick as "leaves in Valambrosa," or blackberries in a southern "brier-patch." You might infer that my sympathy in this respect is natural from a similar experience. This inference is correct. Yet in a rather large and varied experience, I have never lost a suit or compromised a case. I will therefore attempt to offer some thoughts on malpractice and the "damage suit," on which subject I had the pleasure of presenting a paper four years ago to the Tennessee State Medical Society.

Strange as it may appear, no systematic work gives a formal or technical definition of malpractice; I must therefore quote from a well-known jurist on this subject: "Malpractice is the unskillful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient."

To constitute malpractice, unskillfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural: "What is meant by unskillfulness?" It is the want or absence of learning and experience in medical science. How much skill is required? The answer is: "ordinary skill." What is ordinary skill? Such skill as is usually possessed by the profession at the time and place when and where the patient is treated. This is what the law terms reasonable and competent skill in medicine. What is ordinary skill now would have been extraordinary, wonderful, incredible skill half a century ago. Oh! that I had time to speak of the triumphs and glories of medicine and surgery. How inspiring the theme, how it thrills and begs for utterance! But I must leave that for some one of talent, who can do this subject justice.

A doctor may be practicing in a sparsely settled country, and however well he may be informed in the theory of his profession, he has not the means and opportunities of observation, experience and association presented in a city. Hence the reasonableness of the rule which does not hold him to as rigid accountability as one more fortunately located.

A physician may *legally* contract for extraordinary skill and the law will hold him to his contract, but the Code of Medical Ethics wisely forbids such agreement. He is required to exercise ordinary diligence in the treatment of his patients, though he could legally contract for greater attention.

What reasonable diligence is, in contradistinction to neglect, depends on the nature of the disease or affection and the conditions and circumstances surrounding the case. For example, diligence in chronic rheumatism would be gross neglect in iritis, as Ellwell illustrates.

Contracts are expressed or implied—expressed, where agreed between the parties; implied, when inferred by the law from the facts and circumstances. The physician or surgeon who opens an office or holds himself out to the community as practicing, impliedly contracts for the possession of ordinary skill, and promises the exercise of reasonable diligence. He impliedly says to the patient, I am able to treat you and will not neglect you. When a patient or his friend or his relative calls such a physician or surgeon, he by implication promises to pay the usual and reasonable fee without a word being said on the subject. The contract for the amount of the fee, the time of payment, etc., may be fixed by the parties. The fee, however, is due when the services are rendered, unless otherwise agreed.

A physician or surgeon is not to be judged by results. He is not an insurer, unless in violation of medical ethics he, by express contract, becomes such. When he possesses ordinary skill, and exercises reasonable care and diligence, no recovery for damages can be had against him. This constitutes his whole duty. In evidence of skill he has the right to prove that he is a graduate of a reputable school, and to have established his reputation and standing by the evidence of his professional brethren. Even if there be not ordinary skill and diligence the patient can not recover, if no injury results therefrom.

If a person undertakes to act as a physician or surgeon, though he be neither, he is held accountable for any injury he thus causes.

A patient is compelled to co-operate with his physician in the treatment of the case. He must obey in-

* Presidential Address, delivered before the Mississippi Valley Medical Association, Oct. 3, 1899.

structions; no matter if to do so is painful or whatever the excuse, the physician can not be made responsible for injuries resulting from such disobedience on the part of the patient. In cases of doubt and uncertainty, where the profession and authorities are not agreed as to treatment, the medical attendant *must exercise his own best judgment.*

A physician *can* decline to attend a patient for reasons satisfactory to himself; nor is he required to give his reasons therefor. He is not a common carrier, hotel-keeper, or "yellow dog," but has the same rights and privileges as other professional gentlemen. The opposite opinion seems sometimes to be entertained by the community. A greater error could not prevail. Having, however, accepted a case, he must continue treatment until recovery or death terminates the relation, or the patient discharges him.

Pauper patients require the same skill and diligence as pay-patients. Our profession is justly distinguished for its charity and gratuitous treatment of the poor, yet most of the suits for alleged malpractice are brought by pauper patients, and of all, they are the most critical and exacting, and the least grateful. This is discouraging; nevertheless, it is a fact.

A well-known authority declares that two-thirds of the cases charging malpractice arise from *fractures and dislocations. Deformity* is the result of many fractures and can not be prevented. Patients who have had the very best treatment for fractured clavicles, Colles' fractures, etc., consult with doctors until they find one who will express an unfavorable opinion as to the plan of treatment adopted, or at least suggests that a better result could have been obtained. With this opinion, *patients* advise with lawyers and a suit for malpractice is instituted. Unfortunately, enmity, jealousy and rivalry are too often the cause of damage suits. A doctor is usually "at the bottom of it."

Prof. Austin Flint, Sr., abandoned the practice of surgery, and confined himself exclusively to the practice of medicine, because of the danger arising from damage suits. It does really seem that the safest course for a surgeon to pursue—not knowing what a jury might do—is to make over his property to his family.

The consent of a patient for an operation does not absolve the surgeon from responsibility; his duties and relations remain unaltered thereby. When he possesses the necessary qualifications and performs the duties required, he is not held responsible for mere errors of judgment; nor is he liable for declining professional assistance or consultation.

Owing to the fact that members of our profession do not make it a rule to learn their rights and duties to their patients, and reciprocally, those of their patients to them, they subject themselves to the continuous anxiety of doubt and uncertainty as to what they ought to do, or ought not to do; or what they ought to have done, or ought not to have done; and hence throw themselves unreservedly on their lawyers for direction and instruction. Now, while it is well to retain counsel with whom they can advise, yet it should be remembered that the lawyer must investigate before he can decide, and it often happens that the lawyer is not himself a medical jurist, and he needs instruction as much as the doctor. Besides this, it is in emergencies needing immediate action that one must use this knowledge.

A well-known medico-legal work, which is authority both in this country and England, lays down the following rules as established, to-wit:

"1. A physician or surgeon, without a special contract for that purpose, is never considered as warranting a cure.

"2. His contract, as implied in law is: *a*, he must possess a reasonable degree of learning, skill and experience, which is ordinarily possessed by others around him, in his profession; *b*, that he will use reasonable and ordinary care and diligence in the treatment of the case committed to him; *c*, that he will use his best judgment in all cases of doubt as to the best course of treatment.

"3. He is not responsible for want of success, unless it is proved to result from want of ordinary skill, or from want of ordinary care and attention.

"4. He is not presumed to engage for extraordinary skill, care and attention.

"5. He is not responsible for errors of judgment, or mere mistakes in matters of doubt and uncertainty."

It must not be inferred that the degree of care and skill necessary to be exercised in a particular case must be proportionate to the severity of the case. Such a doctrine has been urged, but has been very wisely rejected by the courts. If such a rule were adopted, the conclusion would naturally and logically follow that a physician and surgeon is legally required to exercise care and skill adequate to the severity of all cases that he undertakes. Such a test is manifestly absurd and beyond the possibility of human acquirement.

It is as culpable to compromise a suit for malpractice when in the right, as it is to resist when seldom in the wrong. Such compromises not only subject innocent men to grievous sacrifices, but encourage the bringing of similar suits against members of the profession.

It is the duty of the physician to give needful instructions for the care and attention of the patient during his absence or between visits. A failure to do so would give a right of action in the courts. Upon this point, Arthur N. Taylor, LL.B., who has lately presented a series of articles on "The Law in its Relations to Physicians[1]," suggests: "This obligation extends not only to giving instructions for the period during which the physician is attending the patient, but also for the period of convalescence immediately following. Therefore a physician should, upon dismissing his patients, carefully tell them what to avoid and advise them to exercise that care which, in his judgment, is best calculated to restore their natural health and strength."

By prescribing certain qualifications and attainments as conditions precedent to admission into the medical profession, and by defining the duties and obligations, the rights and privileges of its members, much good could be accomplished by the law-making power of the country. With this assistance we could the more easily establish and maintain honorable medicine, rebuke the ignorant pretender, repress empiricism and bring to justice the presumptuous charlatan, while resisting cruel and wanton attacks on meritorious members of the profession, and defeating vexatious and oppressive actions instituted by reckless and unscrupulous parties for purposes of speculation and persecution.

Let the profession as a unit stand by the innocent victim when unjustly attacked, as if it were a matter of personal concern to each, remembering that when one member suffers, the reflex action is felt by all. In harmony there is life; in union there is strength. Kentucky's motto should be our maxim: "United we stand, divided we fall." Our profession should be and is, a fraternity, illustrating a glorious brotherhood in all its relations, bearings and dependencies.

[1] New York Medical Journal.

A wise physician, skilled our wounds to heal,
Is more than armies to the public weal.

The very name of medical science is suggestive of living thought, noble deeds, high morals, generous sacrifice and benevolent action; whose remaining charities, after feeding multitudes, fill to repletion the baskets of humanity and philanthropy; a profession possessing an incalculable force of restorative and recreative energy; whose Materia Medica comprehends earth, air, and sky; and whose Therapeutics levies contributions on the three kingdoms of physical science.

History announced an indubitable fact and Philosophy exclaimed: "The nation that shortens its sword enlarges its empire." Medical Science has reduced the sword to the dimensions of the scalpel, and moulded the bayonet into a tenaculum. Hence its empire comprehends the nations of the globe, and its soldiery rides the waves of every ocean, and walks the decks of the fleets of the world. This science has the earth for its theater and the people thereof are its *dramatic personæ* and the drama of its attendant revelations signalizes the splendor of its achievements.

Therefore, with a heart overflowing with fraternal felicitations, I congratulate you on being faithful, zealous members of this great and glorious profession, and joyously express at once the hope and belief that your presence and your deliberations, in this great city, will be productive of good to the cause in which we are so heartily enlisted.

Original Articles.

PRACTICAL USE OF RADIOGRAPH AND FLUOROSCOPE IN DISEASES OF THE LUNGS.

BY T. MELLOR TYSON, M.D.

Assistant Physician to the Hospital of the University of Pennsylvania, and Visiting Physician to the Rush Hospital for the Treatment of Consumption.

AND

WILLIAM S. NEWCOMET, M.D.

Junior Physician to the House of Good Shepherd; Registrar to St. Agnes Hospital; Dispensary Physician to Rush Hospital for the Treatment of Consumption.

PHILADELPHIA.

The subject on which I would like to say a few words has been quite thoroughly dealt with by Dr. F. H. Williams, of Boston, and my object is not to go into the methods as much as to report a number of cases which were admitted to the Rush Hospital for the Treatment of Consumption in Philadelphia, and of which radiographs of the thorax were taken before any physical examination was made. You will see that in every instance the shadow, which is the only thing at present demonstrable, and which in the early stage is not due to the transparency of the diseased lung, but to the greater or less amount of blood in the part affected in the period of expansion and contraction, was present in every instance, and on examination the physical signs were present to corroborate it. In looking through the fluoroscope, which is always desirable before a picture is taken, a marked diminution of the excursion of the affected side is also seen. The advocates of this method of examination for tubercular deposits in the lungs report cases in which the physical signs and symptoms of the disease were absent when the fluoroscope revealed disease at one or the other apex and after repeated examination the physical signs began to appear. It has been found by us that some cases will reveal disease when the fluoroscope is used, and when a radiograph is taken there will be no marked difference on either side. It is therefore always better to use the fluoroscope and abide by its decision rather than to rely on the radiograph.

CASE 1.—M. K., aged 21; single; American.

Family History: Mother is living and well; father died five months ago, of phthisis; five brothers died in infancy; one sister living, 19 years of age, is suffering from phthisis; three brothers and twelve sisters are living and in good health.

Previous History: The patient had measles in infancy, la grippe ten months ago.

Present Illness: Has been ailing for the last 3½ years; takes cold very easily; pain over chest; hemorrhage a year ago, about f℥ij; cough; expectoration profuse, greenish yellow in character; sweats; chills; stomach in fair condition; appetite good; bowels regular.

Radiograph 1 (shows only the left side; very little of the right; taken from the back) shows a large transparent area on the left side posteriorly at the level of the fifth rib, about 2½ inches long and 1½ inches wide.

Physical Examination: Inspection showed marked depression under the right clavicle; poor expansion over the whole chest. Palpation gave fremitus, increased at the left apex. Percussion gave dulness over the left side down to the second interspace. Auscultation showed expiration prolonged at both apices; râles on the left side, about the level of the second rib. At the left, posteriorly, the signs of a large cavity from the mid-scapula to the seventh rib; hyperresonant note over this area. At the angle of the scapula could be heard pectoriloquy and bronchial breathing.

CASE 2.—B. F., aged 18; single; American.

Family History: Father and mother living and in good health; three brothers and two sisters living and well; one died in infancy; one sister, 14 years of age, died of phthisis.

Previous History: The patient had scarlet fever and measles, otherwise good health.

Present Illness: Seventeen months ago she had a fright which she thought caused a hemorrhage; since then has had a bad cough, worse in the morning, with expectoration, yellow green in character; appetite good; no digestive disturbance; menses regular; palpitation; lost weight.

Radiograph 2 (taken from the back) shows generally darker at the left apex in comparison with the right, although at the right apex there is a slight shadow. On the right side, at the fourth rib can be seen a round transparent spot surrounded by a dark ring, and another spot extending from the fourth to the sixth rib. Over this area signs of a cavity can be heard.

Physical Examination: Inspection showed winged scapulæ and that the right shoulder drooped more than the left; chest well nourished; right side more retracted and less movement. Palpation gave increased fremitus at the right apex. Percussion revealed flatness at the right apex, and below this hyperresonance. Auscultation showed the breath sounds roughened and, at the level of the third rib, blowing breathing and gurgling râles; at the level of the fifth rib, amphoric breathing and pectoriloquy were heard. Posteriorly, at the right side, at the level of the upper part of the scapula and within was a patch of dulness. At the left apex there was impairment of resonance and harsh breathing, with a few râles.

CASE 3.—H. H., aged 25; single; American.

Family History: Father dead—accident; mother died of pneumonia; one brother died of pneumonia and another of some cardiac lesion; four brothers and one sister are living and well.

Previous History: The patient has had measles, diphtheria, and typhoid fever one year ago.

Present Illness: This began last January, when he caught a severe cold. He thinks he was rendered vulnerable by the attack of typhoid, during which he lost over thirty pounds, never regained; cough; expectoration, greenish yellow [illegible] tionally blood tinged; pains over entire chest, [illegible] right side near base of upper lobe; night [illegible] notices puffiness under the eyes; [illegible] attack of fever some time during the [illegible] hemorrhage of [illegible] amount of blood lost [illegible]

tion, vertigo, severe frontal headaches, no edema, nausea and vomiting quite frequent; appetite poor; bowels regular; flatulence; nocturnal urination (2).

Radiograph 3 (taken from the back) reveals a dark shadow over both apices, more so at the left. At this side, posteriorly, at the fourth rib there is a transparent spot, and also one on the right side between the third and fifth ribs.

Fig. 1.—M. K. Advanced case. 1, cavity; 2, area of intense light; 3, cavity; 4, heart shadow. Patient was unable to rest on her back, and only on the right side.

Physical Examination: Inspection showed the patient poorly nourished; marked retraction of whole chest, more marked at the right; winged scapulæ and bowed spinal column. Palpation gave increased fremitus and less expansion at the left. Percussion gave dulness above and below the clavicle at the left apex, and impaired resonance at the right. Auscultation revealed prolonged expiration at both apices, with râles at the left. At the fourth rib, left, and from the third to fifth on the right posteriorly there could be hard pectoriloquy, bronchial breathing and gurgling.

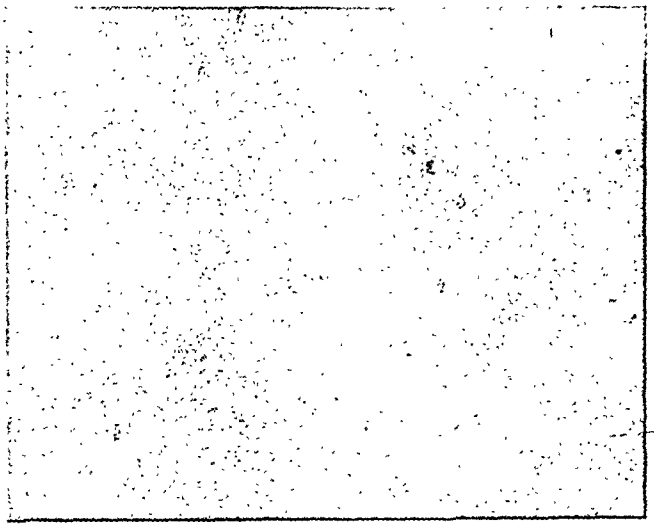


Fig. 2.—B. F. Physical signs: Right side is flatter than left, with somewhat more restriction of motion; apex is higher pitched than left, but anteriorly generally the chest is hyperresonant; at 5th rib right side tympanitic; at level 3d rib right side blowing breathing, gurgling râles; at the level of 5th rib amphoric breathing, pectoriloquy. Posterior on the right side at level of upper level of scapula is a patch of dulness, and left side breathing is harsh, few râles. Fluoroscope: Chest transmits light easily, especially the right side. 1, clavicle; 2, scapula; 3, 4, cavity; 5, heart.

CASE 4.—Mrs. N., aged 25; married; American.

Family History: Father living; mother died of pneumonia; no phthisis in family.

Previous History: Negative.

Present Illness: She was confined eight months ago, and has since had cough and lost weight; cough is worse in the morning; pain in the chest and back; dyspnea; palpitation; spat some blood.

Radiograph 4 (taken from the back) shows the left generally darker than the right. On the right there is a spot of transparency extending from the first rib to the third.

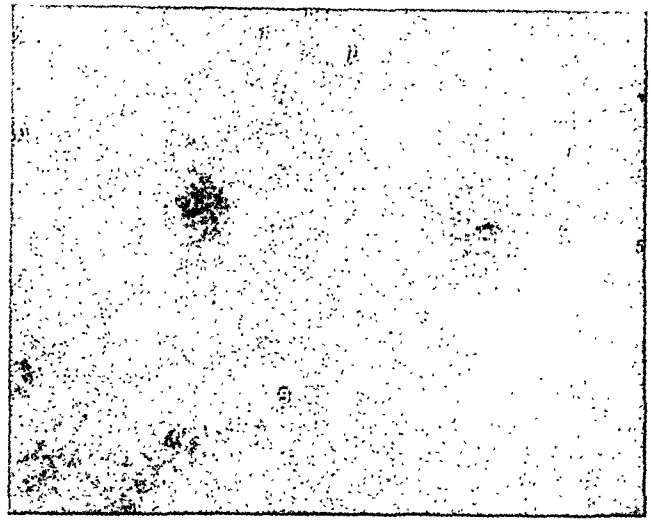


Fig. 3.—R. H. 1,1,1, shadow of spine and sternum; 2,3, dark at apex; 4, clavicle; 5, cavity; 8, cavity; 9, heart shadow.

Physical Examination: This showed dulness at the right apex and from the level of the fifth rib posteriorly to the mid-scapula; left side hyperresonant to the third interspace; cracked-pot sound at the second and third interspaces, nipple line to right side; crepitation; prolonged expiration; bronchial breathing over hyperresonant area on left side.

CASE 5.—A. H., aged 35; married; American.

Family History: Father and mother dead; cause unknown; one sister died of phthisis.

Previous History: Negative.

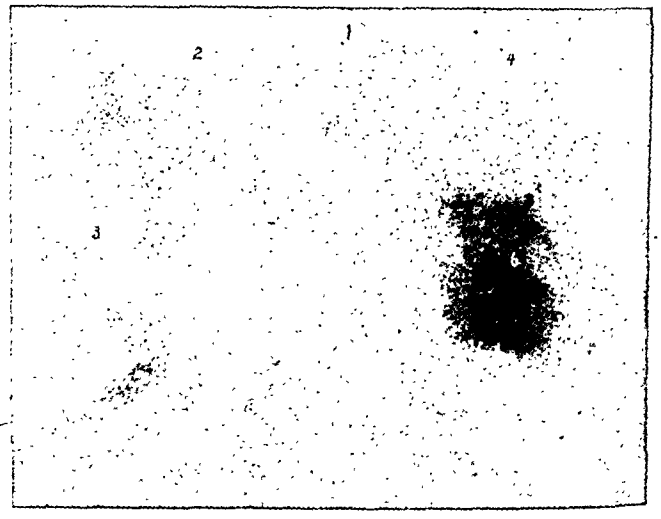


Fig. 4.—Mrs. N. Physical examination: Dulness at right apex, and level of 5th rib posteriorly at mid scapula; left side hyperresonant to 3d interspace; later normal cracked-pot sound at 2d or 3d interspaces, nipple line, right side; crepitation, prolonged expiration, bronchial breathing over hyperresonant area on left side. Does not show apices. 1, spine and sternal shadow; 2, patch of dulness; 3, scapula; 4 and 5, normal lung; between consolidated apex and cavity; 6, spot of dulness; 7, scapula; 8, heart.

Present Illness: For the last year has had cough; dyspnea; expectoration, greenish yellow; night sweats; loss of weight; digestive symptoms; palpitation; bowels regular; appetite poor.

Radiograph 5 (taken from the back) shows the entire left side darker than the right, with two lighter areas. The upper right apex is also shadowed. On the right side posteriorly is

seen a transparent area extending from the fourth to the sixth rib.

Physical Examination: Inspection showed a poorly nourished patient; poor expansion over the whole chest. Palpation gave fremitus, increased over both apices. Percussion showed the right apex as dull to the second rib, and below this hyperresonant; the left apex, flat; posteriorly, the left base flat and the right base dull. Auscultation revealed prolonged expiration at both apices; over the whole of the left lung râles could be heard, and anteriorly, at the right side at the mid-scapula, blowing breathing and bronchophony.

CASE 6.—E. McK., aged 13; single; American.

Family History: Father and mother living and in good health; sister died of phthisis.

Previous History: He has been in good health up to the present time.

Present Illness: About two weeks before admission, he spat up something that looked like blood, which scared the family on account of his sister's "dying of consumption." On admission to the hospital, the boy had none of the symptoms of tuberculosis, except a slight rise of temperature in the evening. His appetite was good, and he looked like a boy in good health. He was examined by one of the physicians there and I was told that there were no physical signs of tuberculosis.

Radiograph 6 (taken from the front) reveals a darker shadow at the right apex.

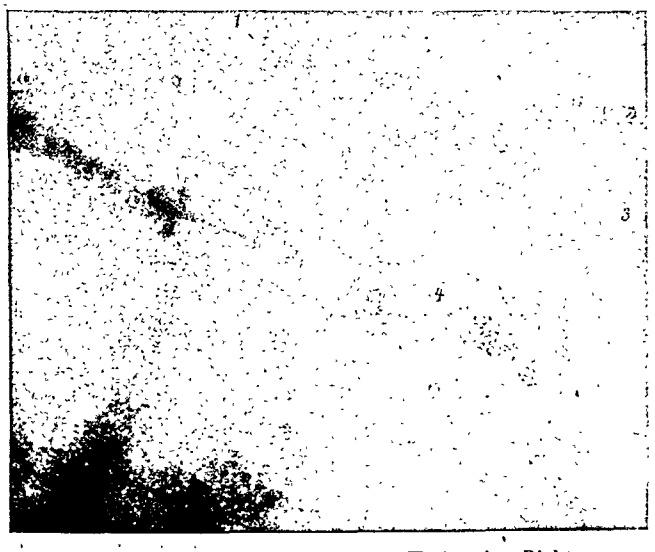


Fig. 5.—Advanced case of phthisis. A. H., female. Right apex was dull to second rib; hyperresonant below; left apex was flat; posterior left base flat and side generally; right base was dull. Left side, râles generally. Right side, mid scapula region, was blowing, breathing, bronchophony. 1, spine; 2, clavicle; 3, scapula; 4, cavity.

Physical Examination: Inspection was entirely negative. Palpation revealed slight increase in fremitus at the right apex. Percussion gave an impairment in resonance at the same side. Auscultation showed the breath sound could hardly be said to be altered.

The case was a suspicious one, but we could hardly make a positive diagnosis. On examining the radiograph it was found to correspond with the physical signs and explained why the boy had a rise of temperature, justifying the suspicion that there was a tubercular process going on that could not be positively diagnosed by the ordinary physical signs. This case, I think, shows the advantage to be derived from such an examination.

CASE 7.—R. S., aged 35; single; American.

Family History: Negative.

Previous History: Has had diphtheria; scarlet fever; was run over when a child and ribs hurt; rheumatism; last year, had an attack of typhoid fever and later an attack of pleurisy.

Present Illness: Since the attack of pleurisy, the patient has had a more or less constant cough, with pain in the chest, and now and then in the right shoulder-blade. Cough is worse in the morning: dyspnea; spits a yellow phlegm with some tinging of blood; no sweats; no fever; chilly at times; appetite fair; no digestive disturbance; bowels regular; nocturnal urination; menses regular; has some loss of weight and complains of weakness.

Fluoroscopic Examination: Left apex somewhat darker than the right, and extended a little below the first rib; another shadow about the level of the second rib; another dark spot an inch below the scapula to the left of the heart shadow; anteriorly this last shadow can be seen about the nipple.

Physical Examination: Inspection showed the chest to be decidedly flatter on the left side and the left clavicle more prominent; some lagging in breathing was evident, but expansion seemed about the same; the left scapula was more winged than the right. Palpation gave increased fremitus greater at the left apex than the right; back and front. Percussion showed the left side dull anteriorly, while posteriorly, at the left base, resonance was impaired; the right apex was dull above and below the clavicle. Auscultation gave harsh breathing at the right; bronchial breathing at the left, with an occasional râle; harsh breathing at the left base.

CASE 8.—J. G., aged 45; married; American.

Family History: Father and mother living and well; two brothers and one sister living and in good health; one child living and well; one child died of pneumonia; wife in poor health.

Previous History: He has had influenza and rheumatism, and is also subject to severe headache.

Present Illness: This began eight years ago, when he

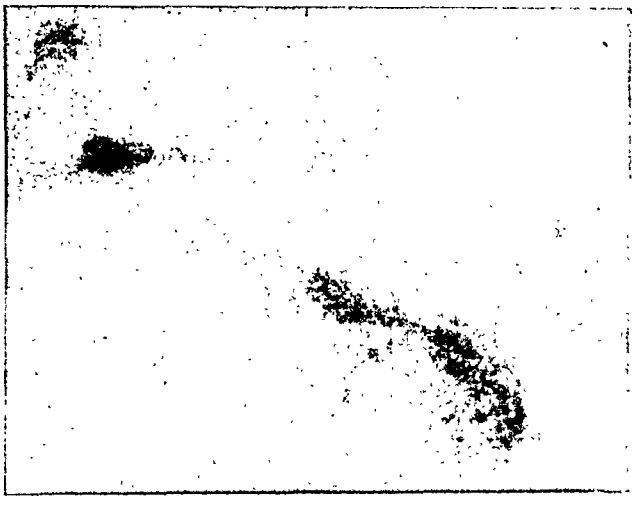


Fig. 6.—Incipient case of phthisis. E. E. Chest is generally clear but considerably darker at right apex. Right side darker at the apex. Left side light at apex. 1, spine and sternum; 2, heart.

strained himself lifting. There is pain over the epigastrium, which gets worse when he takes cold; pain is sharp in character, but not as severe as it was; cough; expectoration; no sweats at present, but has been troubled with dyspnea; palpitation; sleeps poorly; no digestive symptoms; appetite fair; bowels regular.

Fluoroscopic Examination: The left side is generally darker than the right. On the right side, at the level of the second rib, is a darker shadow about 1½ inches in diameter.

Physical Examination: Inspection showed less expansion at the left apex and retraction of the same side, and the chest poorly nourished. Palpation gave increased fremitus at the left apex. Percussion revealed that the right apex was dull to the second rib, while the left apex was flat to the second rib. Auscultation showed over the left apex, sibilant and sonorous râles; posteriorly the same were discovered.

CASE 9.—C. McN., aged 45; married; American.

Family History: Negative.

Present Illness: This began six years ago, with an attack of pneumonia from which he suffered a relapse; since then has had dyspnea and much cough; the expectoration was mucoid and lumpy; no year has passed in which he has not had an acute exacerbation of the above symptoms, which confined him to bed for the time; during the intermission he has had a cough, but was able to work a little. He has had three typical hemorrhages, usually after severe attacks of coughing and during

which he spat up varying amounts of bright red blood; the first occurred three years ago—f℥iv; the second about one year ago—f℥iv, and he has had one since entering the hospital, not severe—f℥ij. At other times the expectoration is free from blood. He has lost fifteen pounds; appetite good; bowels regular; palpitation of heart with dyspnea, which is independent of exertion, but usually follows a severe attack of coughing; occasional night sweats last summer, none at the present time.

Fluoroscopic Examination: The left apex is darker than the right, though the right is dark. This darkness on the right side is due to the liver, which extends from the mid-sternal line to the seventh or eighth rib. The crease in the pectoral muscles showed very distinctly.

Physical Examination: Inspection showed a long, narrow chest, fairly well nourished; flat at the right; expansion fair. Palpation gave increased vocal fremitus at the left. Percussion was dull above and below the clavicle at the left apex, and at the right, to the second rib. Auscultation showed prolonged expiration at both apices; about the mid-scapula posteriorly a hyperresonant note could be heard on both sides.

CASE 10.—F. W., aged 26; married; Hungarian.

Family History: Negative.

Previous History: He had smallpox at 11 years of age; pleurisy.

Present Illness: This started three years ago, on exposure to cold, followed by pain in his side; he was blistered and relieved. Three months ago he began taking cold shower-baths and the old pain returned; this was severe, lasted three months, and was diagnosed as old pleurisy with emphysema; he now complains of a hard and dry cough, and spits a mucus of a blue color, sometimes yellow; appetite is good; bowels regular; no loss of weight.

Fluoroscopic Examination: Negative.

Physical Examination: There were no physical signs except an old pleuritic friction on the right side.

CASE 11.—L. P., aged 61; a sailor; six children; native of France.

Family History: Negative.

Previous History: Negative.

Present Illness: This started two years ago, with a cold, and since then has had a cough and expectoration—white yellow; spat some blood; dyspnea; no sweats; no fever; appetite good; digestion fair; bowels constipated; palpitation.

Fluoroscopic Examination: The chest is generally very dark. There is an exceedingly dark patch to the left of the vertebra at the level of the mid-scapula. Both apices are dark, while the right side is darker at the top; the shadow extends lower down on the left by one rib.

Physical Examination: Inspection showed the patient well nourished: the apex of the heart in normal position, the whole chest flat, a little more so to the left; slightly winged scapulæ; spinal column curved a little to the right. Palpation revealed increased fremitus at the right apex, with less expansion. Percussion gave marked dulness above the clavicle; impaired resonance below the clavicle on the right. Auscultation revealed prolonged expiration at the right; no rales.

CASE 12.—C. C., aged 21; single; American; gave negative family and previous history; with no symptoms except cough from nasal catarrh, also complaint of dyspnea. The fluoroscope examination was negative, as was the physical.

Judging from the cases reported, I am forced to conclude that this method would greatly help in the early recognition of tubercular disease of the lungs, and that a fluoroscopic examination should be made of any patient where there is the least doubt of the diagnosis. For example, in the case reported here, in which the physical signs were not marked enough to make the diagnosis positive, with the help of the X-ray the question was settled. Thus is recognized a stage in which proper treatment might be expected to produce a cure. In regard to the diagnosis of cavities, with this method an idea of the size of the cavity can be obtained, information which all other methods fail to positively give. Again, it is possible for physical signs of a cavity to be wanting, in which event the fluoroscope might reveal it.

CHALICOSIS PULMONUM OR CHRONIC INTERSTITIAL PNEUMONIA INDUCED BY STONE DUST.

BY WM. WINTHROP BETTS, M.D.
SALT LAKE CITY, UTAH.

The advent of the cyanid process of milling makes it possible to treat large bodies of low grade ore that previously could not be handled at a profit. This involved new methods of milling and taxed the ingenuity and inventive genius of the promoters. The transition has forced the expenditure of large sums of money and involved certain loss of human life by exaggerating old causes of danger. Many of these milling plants are springing up in the mining districts of the west, all involving more or less the same difficulties, but in order to make my investigations of a scientific value I must necessarily study the history of a single plant. I, therefore, desire to report the observations and experience of myself and friends among the workers of such a plant, also to call your attention to the greatly increased rate of mortality among the employees, induced by the constant inhalation of the fine dust produced by the crushing of these ores.

Whether we call the cases fibroid phthisis, chronic interstitial pneumonia, stone-cutters' phthisis, miners' consumption, or chalicosis, depends on the character and amount of foreign matter, or classify them under the generic name of pneumonokoniosis, makes but little difference. All convey to our minds a pathologic process with a clinical history the exact nature of which depends largely on the stage in which the case is found by the pathologist. Authors agree, however, in the dust causation, and in the cases under consideration the foreign matter is excessive. At the Delamar mill the ores, which are a gold-bearing quartzite, are crushed, dried and ground into a fine powder in what is known as the Griffin mill, conveyed to bins, and thence through chutes to cars which are wheeled to the tanks. In and about the mill the air is filled with an impalpable dust and in portions of the mill it is so dense that one can not be recognized a few feet away, and an electric light is in evidence by a spark.

The mill has been in operation since September, 1894, employing about 40 men, the capacity being increased from time to time until about 60 men are now being employed. It is stated that most of the men who worked in the mill from seven to nine months previous to January, 1898, are dead, and the others are sick. A review of the cases as compared by the employees to March 1, 1899, gives 166 deaths. Since then, to my personal knowledge, 3 have died in St. George. A later statement by a gentleman who has the disease himself, and is the editor of a Nevada paper, puts it at 200. Dr. Mayo, who was the company's physician from January, 1895, till a few months ago, and to whom I am indebted for much valuable information, states that only 38 have come to his knowledge. This I am sure is too low, and while 200 is an exaggeration, I believe an average of these figures nearer correct, as almost every town in Nevada and southern Utah has had its victim, for it is a fact that neither the company nor the men realized their danger until the deaths began to occur. My attention was directed to these facts while at St. George, as quite a number of the young men were employed in the Delamar mill, 11 of whom have died within the past year. A number of others are suffering from the disease. After interviewing the attending physicians and the unfortu-

nate families, I have been able to gather much of interest concerning the cases.

I find, on further interviewing my professional friends, that a number have been treated here and died in the hospitals of this city. A great many of the men were from adjoining states and the far East. Many would return to their distant homes as soon as they were broken in health, and it is difficult to keep track of them, though many have died and others must, as the disease involves lesions which do not admit of recovery, and sooner or later prove fatal. I have examined a number of cases in various stages of the disease, and some of them might come under the chronic form as they are able to get around and occasionally do some light work, though they were obliged to leave the mill months ago.

A few years ago I examined a patient in this city, who was for twenty-seven months foreman of carpenters, and for weeks and months at a time was inhaling the dust. He worked, however, eighteen months before suffering any inconvenience, though the pathologic process had undoubtedly been established for some time. He first noticed shortness of breath, loss of appetite, fatigue on slight exertion, and emaciation. The cough and expectoration were slight for months. He has now been in the city for about a year. The pathologic process continues and his symptoms do not improve, though from present indications he will live some months. His clinical history and physical examination reveal a condition typical in fibroid phthisis, and in marked contrast to the poor fellows who after three months' exposure died within a year. Thus we have all grades, as will be shown later, depending on the general constitution and natural resisting power of the men, also largely on the amount of foreign matter inhaled. The mucous and alveolar cells are the normal scavengers of the lungs and are capable of protecting the organ in a measure, but when the dust is excessive the scavengers are overworked and break down, so to speak, leaving the lungs exposed to just what occurs in these cases.

Every man who works in the mills from two to three weeks is subject to attacks of acute bronchitis, which is due not only to the irritating effects of the dust, but to their apparent inability to resist slight exposure. The mucous membranes of the nose, throat and conjunctiva are all subject to acute inflammations. The bronchitis is followed by a soreness along the course of the trachea and bronchial tubes, usually more marked on the right. After coughing has continued for a time there will be soreness in the region of the stomach and loss of appetite. There is loss of weight and shortness of breath, the respirations running as high as 38 to 42 per minute on the slightest exertion. As the weeks pass the loss of weight continues. The respiration does not improve, the patient suffers a general malaise and soon finds it impossible to get about, and by the time he is confined to his room has lost from 30 to 60 pounds in weight. The features are drawn and eyes sunken. The pulse ranges from 90 to 120, and is weak and intermittent. Patients are restless, anxious and apprehensive of results; they do not sleep well and are subject to hideous dreams. As the disease becomes more marked and in its later stages, the temperature may rise to 102 or 104, though a high temperature is not always present. There is a characteristic odor of the breath at all times, probably due to the peculiar odor of the silicious dust modified by the cyanid odors about the mill, which permeate the clothing and surroundings of the patient. There is no arsenic, as has been stated.

I have spent much time and labor in getting at the facts and, so far as the cases are reported, the histories have been furnished by the families and physicians. About thirty cases of death I am unable to report from lack of history. I have sent out history blanks to all the men I can reach who have worked in the mill thirty days and over, to be filled out, whether sick or well, and returned; but it will be months before I can report the final statistics. From the starting of the mill till September, 1899, the average number of men employed was fifty. The change in the personnel of the employees working thirty days or over was about fifteen each month, though in some instances it would be many times this number—men who could only work a shift or a day or so. However, a change of fifteen per month per sixty months is approximately correct, which give us, by adding fifty for our first month and fifty for carpenters and others who have been obliged to come under the same influences, a thousand men for the five years. Of these, a large number have chronic interstitial pneumonia and many are already helpless, and, conservatively speaking, about a hundred have already died; six that I know of in the past two months, and the death-rate will necessarily be greatly increased among these sufferers as soon as cold weather sets in.

I have tabulated the report of the following thirty cases.

It will be seen by this report that all were comparatively young men, from 20 to 40 years old, with the exception of O. N. W., who was 43. All were fine specimens of physical vigor, with no unfavorable family histories, and none had acquired tuberculosis nor any other lung trouble. It will also be noted that the time of employment extended over a period of three months in the case of J. F., who survived seven months after leaving the mill, to twenty-five months in the case of A. W., who survived but three months. The average time of employment, however, was fourteen months, and the average time survived, ten months. The average time from entering the mill to the termination of the pathologic process was twenty-nine months.

The employment was not continuous in all cases. In some instances there would be a lay-off of several months, though I was unable to secure exact time. I have designated such as intermittent and given actual time worked. O. N. W. was not, properly speaking, a mill employee, but a carpenter, and originally worked on the construction of the mill, and does not figure in these statistics. He had been employed from time to time in and about the mill on repairs and improvements, thus coming in contact with the same influences as the regular operatives. He survived four years and nine months. In three cases the weights were taken a few days before death. D. A. A. dropped from 175 to 120 pounds, C. F. from 165 to 110, and H. M. from 140 to 80.

The capacity of the Delamar mill is the reduction of 300 tons of ore every twenty-four hours. The men employed in this process are divided into shifts of eight hours each. Among the thirty cases reported are the members of what I choose to call the Frome shift, as C. F. of Gunnison, who died Sept. 22, 1899, was the last survivor of one of the groups of eighteen who worked together long enough at one time between March, 1896, and September, 1898, to claim the personnel of a shift. I mention this as an interesting fact and to further impress the necessity of reforming the hygienic conditions in this line of work. I beg your indulgence while I record a few object-lessons made possible by the kind-

Name and address.	Age.	Height.	Weight.	Commenced work.	Stopped work.	Time worked.	Time to death.	Whole time.
D. A. A., St. George, Utah, married	38	5-7	175	March, 1897.	February, 1898.	12	10	22
G. A. L., St. George, Utah, married	33	5-10	165	May, 1897.	December, 1897.	8	3	11
O. L., St. George, Utah, married	22	6	175	August, 1896.	February, 1898.	16	11	27
F. C., St. George, Utah, married	35	6-1	180	May, 1896.	June, 1899.	‡‡	1	37
L. C., St. George, Utah, single	20	5-10	170	October, 1895.	September, 1897.	* 23 months, 18 actual time.	6	29
G. W. M., St. George, Utah, married	38	5-9	150	March, 1896.	February, 1898.	19	2	21
H. M., St. George, Utah, married	28	5-7	140	December, 1895, to March, 1897.	September, 1897.	* 4/5=9	19	28
J. F., St. George, Utah, married	28	5-8	160	April, 1896.	June, 1896.	3	7	10
M. C., St. George, Utah, single	24	5-10	170	September, 1896.	December, 1896.	3	12	15
L. B., St. George, Utah, single	27	5-10	165	January, 1896.	December, 1898.	23	2	25
R. L., Beaver, Utah, single	24	5-7	160	October, 1897.	June, 1898.	9	4	13
T. L., Pangistch, Utah, married	28	5-11	155	June, 1896.	April, 1897.	15	3	18
J. H. L., Pangistch, Utah, married	40	5-6	165	1898.	1898.	5	7	12
J. H., Delamar, Nev., single	40	5-9	140	October, 1895.	October, 1897.	24	1	25
Wm. C., Delamar, Nev., single	39	5-5	135	November, 1896.	December, 1897.	12	1	13
P. T., Baltimore, Md., single	23	5-4	165	November, 1897.	October, 1898.	11	3	14
A. W., Columbus, Ohio, single	24	5-8	140	July, 1896.	August, 1898.	* 25	3	28
J. H., Hillsboro, Ohio, single	27	6	210	May, 1895.	August, 1898.	* 10	12	39
A. S., Fillmore, Utah, single	22	5-9	155	April, 1897.	March, 1898.	12	1	13
J. C., Oregon, single	35	5-6	150	August, 1896.	September, 1897.	12	14	26
M. F., Unknown, single	35	5-7	150	January, 1896.	April, 1897.	14	18	34
J. McC., Unknown, single	27	5-7	157	January, 1896.	July, 1896.	7	5	12
Chs. F. Gunnsson, Utah, married	36	5-7	165	March, 1896.	September, 1898.	18	12	30
R. H., Masonvally, Nev., married	38	5-7	155	1896.	1898.	22	11	33
O. N. W., St. George, Utah, married	43	6-1	175	September, 1894.	June, 1897.	* 30	12	55
E. S., Richfield, Utah, married	33	6-2	226	August, 1895.	November, 1898.	* 19	10	48
A. W. H., Annabelle, Utah, single	31	5-8	155	March, 1896.	July, 1896.	4	13	17
J. A. B., Paragonah, Utah, married	27	6	165	August, 1895.	June, 1898.	* 12	15	48
R. P., Colorado, married	35	5-9	145	August, 1897.	January, 1898.	6	10	16
F. C., Arizona, married	38	5-6	150	June, 1897.	February, 1898.	8	6	14
General average	30	5-8½	170			14	10	29

‡‡ Thirteen months in mill; nine months night foreman, rest in mill.
* Intermittent.

ness of J. T. Affleck of St. George, and Dr. Neal of Richfield, which really form the basis of this paper.

REPORT OF AUTOPSIES.

F. C. of St. George.—After the usual preliminaries the sternum was disarticulated from the clavicle, and it, with the cartilaginous ends of the ribs, removed. The inferior surface was adherent to what was at first supposed to be the pleura. After a careful dissection a congested serous membrane was revealed, extending from the sternoclavicular articulation to the diaphragm and well under the ends of the ribs to the right. After further dissection the right lobe of the lung came into view. On the left the adhesions seemed firmer and extended well down some four inches. During this dissection a slight puncture was made in the surface, followed by the escape of gas accompanied by bubbles of fluid. This relieved the pressure, and it became apparent that we had an enlarged pericardium to deal with—or pneumopericardium. The adhesions could nowhere be separated with the hand—in fact they were so strong that it was only after a careful dissection from the diaphragm and spinal column and laterally and posteriorly from lung tissue that the sac could be removed. An effort was made to remove it intact, but most of the fluid escaped, and was of a serous nature, slightly tinged with blood; its size can be imagined from the measurements, nine inches long and seventeen in circumference.

On sitting up and inverting the pericardium the cardial surface was found to be greatly roughened, having much the appearance of tripe. While the membrane was thickened, the heart itself had much the same appearance, the surface being rougher at the base than at the apex. The whole organ was enlarged, flabby and dilated; the valves were in a fairly normal condition so far as their anatomic relations were concerned.

The anatomic relations of the arch of the aorta and large vessels to the mediastina as well as the trachea and bronchi were entirely obliterated and so matted together that dissection was not attempted. The vessels and bronchi were severed and the lungs removed with little further difficulty, though there were local areas of adhesions which could mostly be separated with the hands. The general appearance was that of congestion, the surface to the eye was fairly smooth, though to the touch nodular and hard, surface generally pigmented, which with the congestion gave a dark color, and the impression that the patient might have died from pneumonia. The edge of the superior, middle and inferior lobes of the right lung were very hard, though the whole lung seemed firm to the touch. In cutting into the lung there was considerable resistance, made more apparent as local areas of cirrhotic tissue were encountered. The cut surface was reddish brown and extensively pigmented. Between the densely cirrhotic areas the lung was infiltrated with a mucopurulent secretion, which on the slightest pressure, bathed the surface in a reddish-gray fluid. The appearance after a fresh incision was that of mottled hepatization of pneumonia, i. e., a mixture of the gray and red. The left lung was of the same general character except the lower half of the superior lobe, which was the only portion of the lung apparently being used at the time of death, and that was far from normal. A number of tracheal and bronchial glands from the size of a hazel-nut to that of a large olive were removed; these, on section, were slate-gray in color.

O. N. W. of St. George.—There was emaciation; ribs prominent. The sternum, with the cartilage ends of the ribs, was removed. The sternoclavicular articulation was ossified. Adhesions were firm to the pleura and pericardium, the latter adherent to diaphragm; also posteriorly, and slightly so to the left. Bands of adhesion also bound down the aorta and large vessels. The anterior mediastinum was obliterated. The pericardium was slightly thickened through its cardial surface, but smooth and normal in appearance. The heart generally was hypertrophied, otherwise normal. On passing the hand over the lung, slight resistance was met by bands of adhesions, laterally and posteriorly, which, however, were not general and could be easily separated. To the touch the left lung was firm and hard, more that of well-developed muscle covered with dense fascia. In grasping the lobe between the thumb and fingers, and using all the force possible, approximation was very slight, much the same resistance that would be met in grasp-

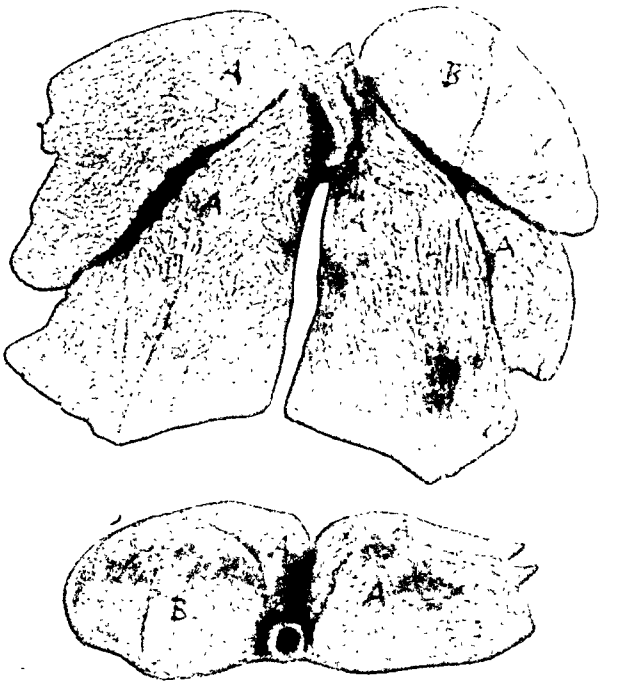
ing the muscles of the thigh in a similar manner. An incision through the inferior lobe met with considerable resistance and revealed dense fibrous tissue, to the touch a shot-like granular surface and deeply pigmented. The serous coat was dense and one-quarter of an inch thick, gradually becoming thinner toward the apex of the superior lobe. The lung, while cirrhotic throughout, was less dense at the apex, though it was evident it had not been used for some time. As we lifted the right one from the pleural cavity, its appearance was that of a single lobe. The adhesions between the inferior and middle lobe were complete, the surface perfectly smooth, only the suggestion of a line remaining. Between the middle and superior lobe there was a slight separation at the very tip, otherwise adherence. A careful examination was made and the fibrous process was found well developed and extensive, the lower border of the inferior and middle lobes being the most cirrhotic. The cut surface was reddish-brown, deeply pigmented and bathed in a mucopurulent secretion, and the same mottled hepatization as in the previous case. The upper half of the inferior lobe and one or two areas near the apex had apparently been sustaining the patient previous to the acute inflammation, which had been present for about a week. All portions of the right lung capable of action were undergoing active pneumonia, with the accompanying characteristics. As in the previous case the tracheal and bronchial glands were enlarged. In both cases a careful search was made for cavities, but none were found. The mucous membrane of the large bronchi and trachea were in a state of chronic inflammation. Owing to the great prejudice and that there had been no symptoms pointing to disease of other organs, the case was not examined further.

I have reports of four autopsies held at Delamar, Nev., when the deaths first began to occur. However, the cases just described are typical of the others—the same cirrhotic lung, infiltrated with a mucopurulent secretion, a mottled hepatization, the fibrous process developed throughout, though more marked in the lower portion of the lobe, and active areas of lung tissue near the apex of either lobe. Careful examination of these patients failed to reveal any cavities. The tracheal and bronchial glands were enlarged and heart hypertrophied.

An autopsy was reported at the Keogh-Hosmer Hospital, similar in many points to the autopsies just described; but in connection with the cirrhotic condition they found multiple abscesses and much broken-down tissue. The patient had apparently been suffering from sepsis from the retained secretions of the lungs.

The following case—E. S. of Richfield in the report—is of unusual interest even among these very interesting cases, as the man was a giant in size, strength and endurance. There was nothing that contributed to his death save the pathologic process under discussion. I wish to call attention to the fact that no active areas existed in the superior lobes, and there was very little lung of any use except in the lower border of the left lobe. I make no comments, but state it as a fact as reversing the experience of the other autopsies. In this case I was fortunate enough to secure the lung shown in the photograph.

In health this subject weighed 226 pounds, but there had been a probable loss of 75, and the emaciation had left the articular landmarks of his massive frame prominent, while his legs and ankles were considerably swollen. After the usual preliminaries nothing unusual anteriorly, in the way of adhesions, presented as in the other autopsies. The mediastinum was well marked, pericardium not adherent anteriorly, but a careful dissection was necessary to separate it from the lungs laterally, and posteriorly from the spine and aorta, also from the diaphragm. The aorta, the trachea and large vessels, together with a large number of bronchial and tracheal glands, made a mass also difficult to separate. The pericardium was not greatly thickened and its cardial surface was smooth and contained the normal amount of fluid. The heart was only slightly enlarged and hypertrophied, while its valves were normal. On passing the hand over the lung considerable resistance was met laterally and posteriorly. The adhesions were pretty general, and force was necessary to separate the pleural surface. The trachea was severed about three inches above the bifurcation and both lungs were removed intact. What at first impressed us as unusual was the density and great weight, later found to be 134 ounces, while the average normal weight of the lungs of a male adult is only 42 ounces. On close inspection the surface was found generally pigmented, and adhesions were rather



The photographs here shown were taken October 10, twelve days after autopsy, and after the lungs had been through the usual washings and subjected to the action of alcohol, the shrinkage and loss of fluids being 44 ounces, giving us 90 ounces at the time of photographing. The shrinkage has brought more prominently to our notice the densely cirrhotic areas A. A. A. A. Particularly is this true of the superior lobe B. In which the whole lobe is shown to be smooth and hard, very little shrinkage having taken place.

general between all the lobes, right and left, which in part could be separated with the hand; others it was necessary to dissect. The superior lobe of the right lung was very dense, with little to suggest lung tissue, and had more the appearance and consistency of a fibroid tumor. (See B in illustration.) The middle and superior lobes were of the same general character, though less marked, and it is safe to say that there were no areas of active tissue in the right lung. In the left there were active areas more marked in the lower borders of the lobe; but in the superior and middle parts of the lobe there were dense fibrous areas. (A. A.) There was no active pneumonitis nor congestion as found in the other cases. On section of the dense fibrous areas there was very little oozing, while an incision through the active and less fibrous portions left the surface [illegible] in a mucopurulent secretion, which on slight pressure

was reddish-gray in appearance. There were a large number of tracheal and bronchial glands which, on section, were slight gray in appearance. The stomach was also removed, as many of the patients suffer more or less from digestive disturbances, but nothing was found save a slight congested appearance and post-mortem changes. The liver was of normal size and consistency, the spleen not enlarged, the kidneys not affected.

For the chemical analyses I am indebted to F. A. Bishop, assayer and chemist, Salt Lake City, and from these I have prepared the following table:

Weight in grams.	Moist.	Dry.	Silica.	Per cent. deposit.	Dry.	Moisture.
A Bronchial glands	5 52	1.57	14	2.561	8 9	
B Dry lung	. . . .	2.4	1.65	. . . .	6.8	
C Superior lobe, R. L	10.	. . .	.16	1.6	. .	
D Inferior and middle lobe, R. L	14.95	. . .	20.	1.334	. .	
E Superior lobe, L. L	10 97	. . .	.23	2	. .	
F Inferior lobe, L. L	19.22	. . .	32.	1.65	.	
G Average from either lung	26.35	5.73	36.	1.56	6.28	74 5
Average of C, D, E, F, G	. . . .	. . . .	. . . .	1.588	. .	

The weight of the lung when the specimens were taken, Oct. 10, 1899, was 90 ounces.; average per cent. silica, 1.588—1.43 ounces., or about 3.375 cubic inches of Delamar dust in the entire lung. A fractional per cent. of iron is also found in the silicious residue.

In the acute stages of the disease the diagnosis becomes important as the condition has been mistaken for typhoid fever, typhoid pneumonia, acute miliary tuberculosis and bilious remittent fever and tuberculosis. While pneumonokoniosis is the generic name given to the various affections of the lungs produced by the inhalation of dust-like particles, chalicosis pulmonum is given to the pulmonary changes induced by the inhalation of stone-dust. Niemeyer, Flint, Osler and others agree that the irritation from dust lights up a bronchitis and is conveyed through the lymph spaces and lymph vessels into the interlobular and perilobular connective tissue; and some of the particles reach the bronchial glands. The chemical[1] examination of the lung shows the presence of silica, 2.8 per cent., in the lung tissue and 3.8 per cent. in the glands. There is a great disposition to the formation of nodules and diffused masses of fibrous tissue. The cases are, therefore, more properly regarded as chronic interstitial pneumonia, which consists in the gradual substitution, to a greater or less extent, of connective tissue for normal lung, by the gradual process of organization of the fibrous plugs in the air-cells, while the alveolar wall becomes greatly thickened by the new growth, and the whole lung may undergo a fibrous transformation. The different conditions under which these changes occur are so varied that a proper classification is difficult, but the interstitial changes play a very important rôle in all chronic lung troubles. There is no sharp line of demarcation between fibrous phthisis and other forms of chronic pulmonary phthisis, and there are instances of fibrous phthisis which can not be distinguished from cirrhosis of the lung from other causes. But in the light of the clinical history of these cases, the revelation by autopsy, microscope and chemical analysis, I have no hesitancy in speaking of them as chalicosis pulmonum, or chronic interstitial pneumonia.

In regard to treatment, nothing therapeutically is of any avail, though much can be done to prolong life by improving the hygienic conditions and stimulating the general nutrition.

[1] St. George's cases, dry specimens, though not enough for a fair test.

Among the cases coming under our observation there are none where "an ounce of prevention is worth a pound of cure" more emphatically applies than in the diseases induced by the inhalation of irritating dust. No one can study the industrial hygiene and carefully note the relations of occupation to life and health without fully recognizing that from the gentleman of leisure to the mechanical operative, the soldier and mill-hand, all have their dangers incident to the various occupations; but it should not follow that no effort should be made to minimize them. I believe it is our duty as scientific physicians not only to point out the danger from contagion, and to render innocuous the germs lurking in our food and water-supply, but also to call attention to the causes of disease induced by the industrial occupations, suggest proper sanitary and hygienic measures, and force, by our teachings, a wholesome regard for the comfort, health and life of the employees, thus reducing the dangers to a minimum. I do not believe any organization, however influential, should presume to dictate to the medical profession or embarrass the physician in his work; much less endanger the health and life of men who are lured by the wages offered—$2 to $5 a day—into what may prove a death-trap, and feel they have discharged their obligations to the men, their families and the public by producing revenues for a "soulless" corporation, regardless of the sacrifice of human life. Notwithstanding the obstruction and criticism I have encountered in the preparation of this paper, no man, nor association of men, is on trial. This is one of the cases in which truth is stranger than fiction, and I have simply stated facts. If I have succeeded in attracting the attention of the profession, and through it the public, to the necessity of reform in the field of so-called preventive medicine, I will feel repaid for my time and labor.

In a subsequent paper now being prepared for a mining and scientific journal, I will speak of the hygiene of mines, mills and smelters, but suffice it here to state that there are no mechanical difficulties to prevent the scientific ventilation of mills and free them from dust by a proper distribution of hoods, fans and dust-collectors, thus improving the hygienic conditions and making them comparatively safe.

Some weeks ago I visited the mill at Delamar, Nev., and in justice to the company let me say that the present superintendent is sparing no expense to improve the hygienic conditions, which in a measure will remove the cause of trouble.

NOTES ON CATELECTROLYSIS (ELECTROLYSIS) IN THE TREATMENT OF SKIN DISEASES.

BY FRED J. LEVISEUR, M.D.
DERMATOLOGIST TO THE GERMAN POLIKLINIK.
NEW YORK CITY.

There is such a radical difference between an operation performed with intruments connected with the positive pole of a galvanic battery and one performed with instruments connected with the negative pole, that both should not be designated by the one common name "electrolysis." I would like to suggest that we call the operation performed with instruments connected with the negative pole—cathode, catelectrode—"catelectrolysis," and that with the positive pole—anode—"anelectrolysis." The development of oxygen at the positive pole, when the current is closed, makes it impossible to use a steel needle, or jeweler's broach, in anelectrolysis,

nor can there be made such a fine, strong and springy instrument out of gold, platinum, iridium or silver. This is a mechanical disadvantage only, but anelectrolysis has little intrinsic value—in fact, it acts like a simple cauterization by heat. It is entirely different with catelectrolysis. What we can accomplish here is this: We can charge, as it were, a steel needle with caustic alkali, after having inserted it into the tissues, let it act in position, stop its action at will, and finally withdraw it

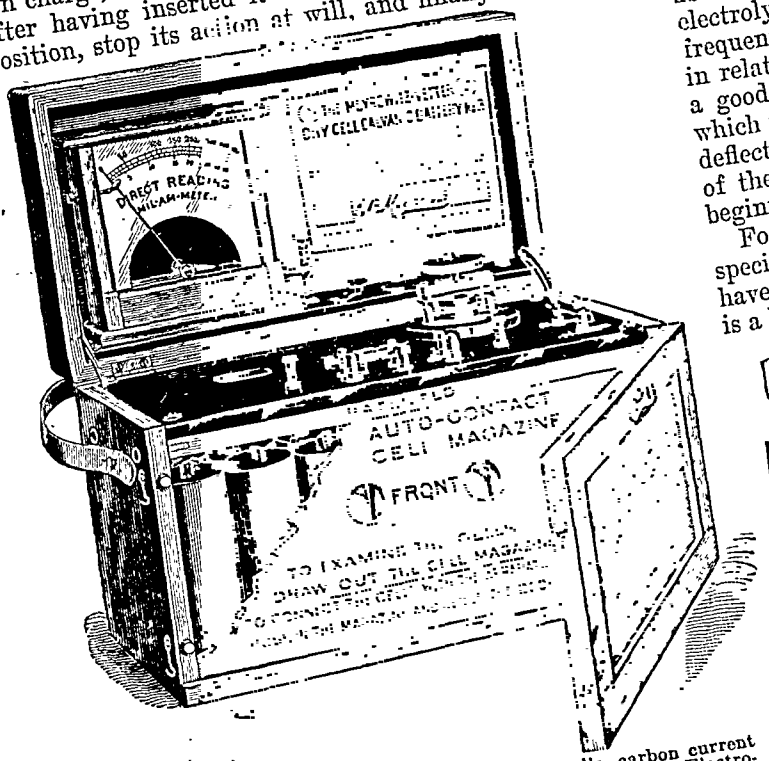


Fig. 1.—Battery containing 32 dry Leclanche cells, carbon current controller, pole changer and direct reading milliamperemeter. Electromotive force, 45 volts.

in as inert a condition as it was before. This is not cauterization, to be sure; it is rather a most delicate and accurate injection of a caustic into the tissues. At the same time, this injection—if I may call it such—allows of an accurate dosage, both by measuring the strength of the current and the time of exposure.

Another advantage, to which I have called attention in my previous contributions on this subject, is that a

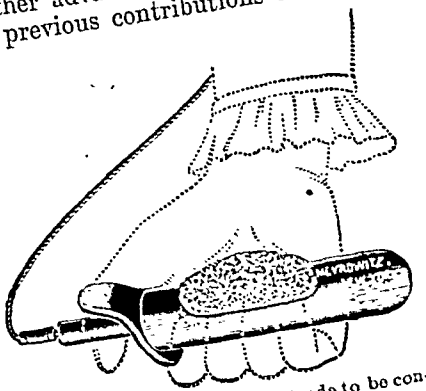


Fig. 2.—Author's sponge electrode to be connected with the positive pole.

certain degree of local anesthesia can be produced by properly managing it. Thus the operation becomes an almost painless one. That, in spite of these points in its favor, catelectrolysis has not become more popular than it actually is at present is largely due to the fact that there exists in the minds of many physicians a somewhat pardonable prejudice concerning the com-

plexity and unstability of medico-electric apparatus in general. The modern tendency to draw electricity from one common source for a variety of medical purposes—faradization, galvanization, cauterization, electrolysis and illumination—is much to blame for this condition. The first step, therefore, to popularize electrolysis was to simplify the apparatus. This has now been accomplished. The battery, the rheostat and the milliamperemeter are all contained in one comparatively small portable box. The portability is a great advantage, because electrolytic operations require a good light, and it is frequently necessary to shift the position of the patient in relation to the window, etc. It is also desirable that a good light strikes the dial of the milliamperemeter, which must be watched constantly by the operator. The deflection of the needle not only indicates the strength of the current, but the moment of its closure and the beginning and the end of the electrolytic action.

For connection with the positive pole I devised a special sponge electrode a number of years ago, and have continually used it since with great benefit. It is a hard-rubber cylinder with a metal-lined cavity, fitted

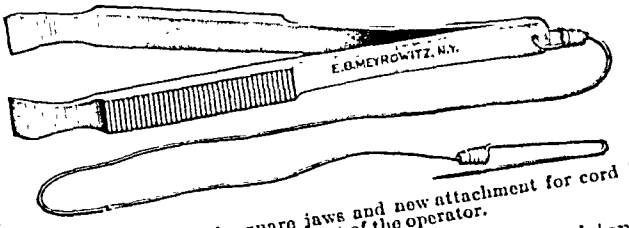


Fig. 3.—Forceps with square jaws and new attachment for cord by which it can be suspended on the coat of the operator.

with a sponge which can be easily removed, moistened and replaced. The electrode is placed in the patient's hand, sponge upward. By closing the hand, i. e., moving

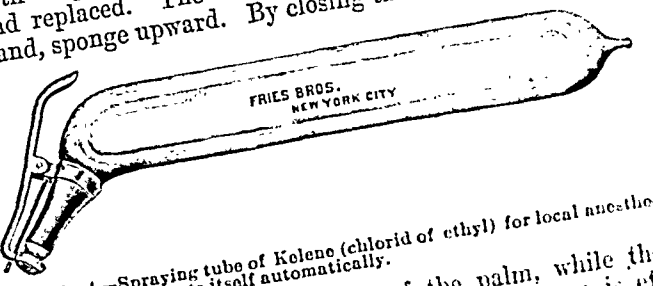


Fig. 4.—Spraying tube of Kelene (chlorid of ethyl) for local anesthesia. The cap adjusts itself automatically.

the fingers toward the center of the palm, while the thumb remains quiet in flexed position, contact is effected and the current closed. The strength of the current may then be gradually increased by pressing the sponge farther down into the cavity of the electrode.

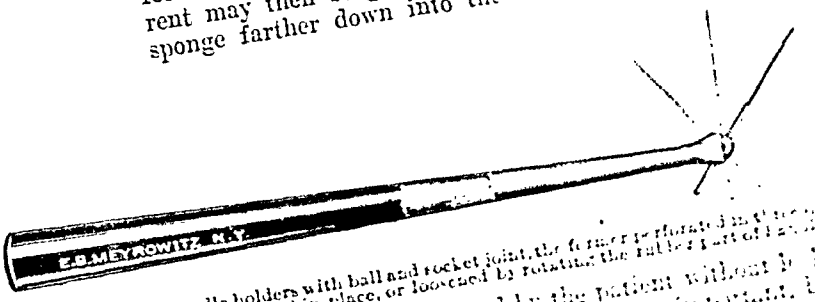


Fig. 5.—Author's needle holders with ball and socket joint, the former perforated in the [illegible] rections. Needle is firmly secured in place, or loosened by rotating the rubber part of the [illegible]

The instrument is operated by the patient without h[illegible] ing and moving the head, which is very important, be[illegible] cause a great many electrolytic operations affect the face.

The needle-holder for connection with the negative pole should be so constructed as to hold the needle at an angle of about 45 degrees. The operator, standing or sitting at the patient's side, should carry the [illegible]

in his hand like a pen. Almost all catelectrolytic operations can be performed with a so-called jeweler's broach. In exceptional cases a sewing needle of very fine caliber may be substituted. The broach or needle is made to pierce into the tissue, or is introduced into a follicle, and then the patient is directed to close the hand, and start the current by gradually touching the wet sponge of the electrode. A current strength of from two to five milliamperes, with an average exposure of twenty to thirty seconds, is sufficient for all cases. A weak current with longer exposure is naturally less painful than a stronger with short exposure. The local anesthesia, which I mentioned above, is best produced by a weak current with an exposure of half a minute. Later on the strength of the current may be increased and the time of exposure shortened. About two minutes pass before anesthesia appears at the site of the puncture. By the coalescence of a number of punctures a considerably large focus of anesthesia may be produced. If the field of operation be previously frozen by aid of the ethyl-chlorid spray, catelectrolysis will be entirely painless.

The list of diseases of the skin in the treatment of which catelectrolysis is recommended is quite extensive and still continually increasing. It includes: hirsuties —superfluous hair—nevi pigmentosi, papillomatosi and verrucosi, verrucæ molles and duræ, xanthoma planum and tuberosum, keloid, angioma simplex, cavernosum, plexiforme and seripiginosum, acne rosacea, trichophytosis barbæ, lupus vulgaris and erythematosus, adenoma sebaceum, angiokeratoma, milium, elephantiasis and sclerodermia circumscripta.

It is easy to formulate the indications for catelectrolysis from a general point of view. The operation is indicated wherever the avoidance of the formation of scars is of importance. In this regard it is superior to the galvano-cautery, the Paquelin, the micro burner, and all the chemical caustics; furthermore, wherever a strictly limited local action is desired. Particularly well adapted for treatment with catelectrolysis are small, solid and soft cutaneous tumors which protrude above the level of the normal skin or are pedunculated. No other operation equals catelectrolysis for the destruction of hair follicles and sebaceous glands. It is not of great value, on the other hand, in the treatment of either malignant new growths or of those benign tumors, which have a tendency to spread very rapidly.

640 Madison Avenue.

CASE HISTORY AND PHOTOGRAPH.*

BY B. MERRILL RICKETTS, Ph.B., M.D.
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Walter S., white, 31 years old, gave a negative tubercular and syphilitic history. He had a small, congenital dark mole two inches below the right nipple, which began to increase in size about December, 1896. During October, 1898, it had increased to 3x4 inches in size. Dr. G. S. Hancock, of Campbellsburg, Ind., then had the new growth excised.

There was no recurrence until about Jan. 1, 1899, when a nodule appeared in the line of incision. Since this time the growth has rapidly encroached on the adjacent tissues until it is now about 14x18 inches, extending from the axillary space to within three inches of the umbilicus.

The growth resembles a large bunch of red grapes, the mass of nodules being elevated and red, some more so than others; a few could be taken between the fingers, thus showing how separate and distinct they were, and yet conglomerated. The entire mass was movable and did not seem to be adherent to the periosteum.

The axillary space was occupied by the new growth, but its glands and those of the cervical region did not appear enlarged.

The white line in the mass is the line of the old incision.

There are numerous minute red elevations scattered here and there over the body, while none appear on the extremities. There is one on the left shoulder, half the size of a guinea egg; perfectly round, scarlet on its center, and gradually becoming the color of normal skin at its base. Another one is to be seen about midway between the left nipple and the nodule just described. All of these nodules are confined to the integument alone. The patient will not consent to having a nodule excised for microscopic examination.

Dr. J. T. Knox invited me to see the case with him on April 12, 1899, at which time the accompanying photograph was taken. I expressed the opinion that the growth was some form of sarcoma, and that a surgical operation would be of no avail; the injection of erysipelas toxin was advised, but not accepted.

The patient insisted on being exposed to the X-ray, which was done for seven days with two daily exposures of thirty minutes each. The pain, which had required the use of various narcotics for its subjection, disappeared after the third application. There was slightly increased redness of the nodules after the fourth exposure. The top surfaces of a few of the larger and

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

smaller nodules became atrophic and darker, while not a few had small hemorrhages into their body. On May 4, 1899, the exposures were renewed and increased in frequency and length of time for seven days more. At the end of this time the dermatitis was very much aggravated and extended about two inches beyond the margin of the new growth. The growth seemed to be checked, there being hardly any appreciable progress since my last observation. Many of the nodules had become necrotic and dry, while those of the left shoulder and chest had developed but little, if any. May 23, 1899, I found the patient ready for another exposure, which has kept up the usual irritation. The growth has made but little progress since my first observation, April 12, 1899. The patient has lost about fifteen pounds of flesh since October, 1898, and is becoming more feeble, with loss of appetite. It has not been necessary to use any narcotics, so free from pain has he been.

Dec. 9, 1899: This patient died during September, 1899, from exhaustion. The growth continued.

DISCUSSION.

DR. B. M. RICKETTS, continuing—This paper was completed about a week ago. I have since seen the patient. His physical condition is becoming very much impaired. I predict that the next three or four months, perhaps, will terminate his career. I am sorry, indeed, not to be able to present him here, and would like very much to have the matter discussed.

DR. I. N. LOVE, St. Louis, Mo.—Has a microscopic examination been made?

DR. RICKETTS—I do not know, and he would not allow me to take a nodule for examination. The man who made the examination in October has not replied to my letter.

DR. A. W. BRAYTON, Indianapolis, Ind.—This patient was at my office a few weeks ago. There was a history given of a pigmented mole which had been burned out by a "cancer doctor" in an adjoining town. Afterward, when new growths began, the whole series of nodules was very thoroughly removed by Dr. W. C. Dugan, of Louisville, Ky. When the patient came to my office some months later, new nodules were appearing on the back and over the shoulders. He wanted to visit friends in Kansas, and I told his brother that if he would start right off he would have time to make a pleasant visit, but that he could not live long. This had all the clinical features of a rapidly progressing pigmented sarcoma.

DR. CAMPBELL, Chicago—What was the result of the operation by Dr. Dugan?

DR. B. M. RICKETTS—Increase in the rapidity of formation, as is usual in that form of cancerous growth dissemination. I would like to hear from the Chairman, Dr. Ravogli, who has also seen the case. I will merely refer here to the application of the X-rays. He had seen in the daily papers about the foreigners using the X-rays, and to satisfy him, I took him for a few days. The application relieved the pain. He had not had narcotics during that time, and if it has done nothing more, even if he dies soon, the application of the X-ray is quite a revelation to me; and if it will check the pain during these circumstances I think it is a valuable aid in therapeutics.

DR. A. RAVOGLI, Cincinnati, Ohio—I find that in the case referred to, it is very difficult to establish the diagnosis, without making a microscopic examination. There is no doubt that the exposure of the tumors to the action of the X-rays has produced a great change, causing a necrosis of the centers of many of them. I believe in the action of electricity on the organic tissues. We know that the X-rays, produced at the negative pole of the current, are able to cause molecular disorganization of the living superficial tissues. The burns resulting from the exposure of the skin to the X-rays can be cited as an example. These peculiar burns take a long time for the necrotic tissues to slough off, on account of the skin being disorganized in its intimate stroma. The negative pole of the current has a peculiar disorganizing action also on the epidermic cells.

CONTAGIOSA BULLOSA.

(PEMPHIGUS CONTAGIOSUS TROPICUS, PEMPHIGUS CONTAGIOSUS, EPIDEMIC PEMPHIGUS.)*

BY JOHN S. WINDISCH M.D.
LATE CAPTAIN IN MEDICAL DEPARTMENT U. S. VOLUNTEERS.
CLEVELAND, OHIO.

During the summer months of 1898, I had ample opportunity to study this interesting disease in detail. It exists endemically in many tropical countries, especially China, where it is supposed to have originated. It is also found in our Southern States, under certain conditions which seem to favor the spread of the disease. People from northern climates are more prone to this affection than the natives, as is seen among the English people who go to dwell in southern China and India, the English families born and bred in India being less liable to it. This was also clearly demonstrated during the Spanish-American War, while the troops were encamped in our Southern States. Few cases were found among the southern troops, but when it did occur it was usually mild and in some cases the contagion could be traced to some northern regiment, while, on the other hand, few of our northern regiments escaped.

As seen by army surgeons at this time, the disease was of unusual interest, inasmuch as it had spread quite extensively before its true nature was recognized. The first case which came to my notice was that of a soldier who was a perfect picture of health, and who had served in the Queen's army in India. He had consulted many surgeons, also some of the local physicians at Tampa, Fla., in an attempt to find out what was the nature of his disease. Like many soldiers in the English army in India, he had at one time a venereal sore, and was very much alarmed lest his condition be syphilis. I recognized the affection as impetigo, and after a thorough examination and investigation, found his messmate, who used the same towel, afflicted with a similar trouble. I compared the diseases, found them identical, and made a diagnosis of impetigo contagiosa bullosa. I confirmed this diagnosis by rupturing one of the vesicles and applying the secretion to an unaffected part of the patient's body, and the initial lesion presented itself in from eight to twenty-four hours. During the summer I saw several hundred cases, and at times was told by the soldiers that they noticed the rash break out wherever the discharge came in contact.

Symptomatology.—The eruption occurs in the form of isolated vesicles, vesico-pustules, pustules or bullæ, usually about the face, axillæ, groins, also on the neck, buttocks, hands and feet. The disease begins with one or more small reddish spots, which vary from the size of a pinhead to a split pea. In the more severe cases these lesions were surrounded by a distinct areola. The initial lesion developed in from twelve to thirty-six hours, and was soon followed by other similar lesions. In another twelve or twenty-four hours the epidermis became slightly raised, and in some the areola more distinct. A clear serous fluid now presented itself. These vesicles which had formed extended at the periphery, until they attained a size varying from that of a split pea to that of a silver quarter, in some cases being even larger. The epidermic covering of the vesicles was very thin and easily ruptured, so that many were ruptured by the clothing or by the use of a handkerchief on the face. When these were not ruptured, the clear

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contents became opaline in from forty-eight to seventy-two hours. The lower part of the vesicle was first affected, and gradually the yellow color extended upward. This process extended over a period of twelve or twenty-four hours, but seldom did the entire contents become purulent. The vesicles occasionally coalesced. In only a very few cases did I see the eruption extend into the hair of the scalp, while the beard was frequently the seat of the disease.

The bleb arose from the sound skin in most cases and, as stated above, only the severer forms were surrounded by an areola. The vesicles were at first fully distended, but when they reached the purulent stage they were flaccid, and when the patient was in an upright position the blebs hung dependent, like a partially filled bladder from its pedicle. When the blebs were ruptured they immediately collapsed, leaving little tents containing a serous or seropurulent fluid. When the epidermis was removed, the under surface appeared moist, reddish and glazed, which later became covered with a crust or scab varying in thickness from a thin friable tissue-paper-like scale to a thick yellowish impetiginous crust. In some cases slight pigmentation followed the falling off of the scab, which finally disappeared. No scars followed unless considerable irritation resulted from some unusual cause. There was little itching and in some cases it was entirely absent. There was no fever which could be attributed to this disease; it attacked old or young, the robust as well as the feeble, running its course in two to four weeks. In only two cases did I see any involvement of the mucous membrane, in both cases the mucous lining of the mouth being affected, the disease having spread from the angle of the mouth. There was no involvement of the lymphatic glands. Debilitated subjects were more prone to the disease than the healthy; although the robust were not exempt. Excessive perspiration favored its development and spread, and the parts which perspired most were more often affected, as the face, neck, axillæ and groins.

The disease spread more rapidly after the rainy season had set in, not that I think the wet weather was the cause of this, but because the soldiers could not bathe as freely as before, and their clothes were always wet and dirty from lying in the sand and trenches. While they bathed freely, they were obliged, from the want of clothing, to wear the same soiled, sour-smelling underwear, which helped the spread of the disease. In many cases soldiers used towels belonging to others, and in that way I was able to trace the contagion many times. The disease was also spread in blankets, as these articles were frequently accidentally exchanged. That this affection was inoculable and autoinoculable was very clearly demonstrated in many cases. It was beautifully demonstrated by one soldier who reinoculated himself repeatedly; also when one in a mess was afflicted, there usually appeared a second, sometimes a third or fourth in the same mess.

Regarding the etiology and pathology I can say but little, as the facilities and opportunities of field service are not such as to afford the surgeon the opportunity of going into extensive detail in many of his cases. The microscope and other bacteriologic appliances were sadly missed. That the disease is caused by some local agency can hardly be doubted, but neither microscope nor cultural tests have succeeded in proving any specific organism.

I have seen many cases in connection with vaccination, and as all soldiers were vaccinated, I am unable to say whether vaccination has anything to do with it. Some of my worst cases were cases in which the vaccin virus was without effect, on the other hand, soldiers who suffered most from the effects of vaccination were free from the disease or only affected to a very mild degree. That it follows vaccination, I will not attempt to argue, as all my cases appeared after all the soldiers had been vaccinated. The eruption was very often seen during the convalescence from a more or less actively contagious disease. I have come to the conclusion that this disease is an acute specific contagious exanthem.

The diagnosis in most of my cases was comparatively easy, while some of the milder cases were indeed difficult. You are confronted with such diseases as impetigo simplex, pustular eczema, varicella, in the early stages by variola, pemphigus and herpes.

The treatment is chiefly local. Mercury acts like a specific, either in the form of an ointment or a mild, soothing antiseptic wash. Boric acid, carbolic acid and ichthyol are also quite beneficial. My patients were relieved from duty and kept in large airy tents, which, even during the extreme heat of the day, were quite cool and prevented excessive perspiration. Each soldier was ordered to bathe once or twice a day, all blebs were opened, the exudate expressed and washed with a solution of bichlorid 1/1000; after that the unguentum hydrargyri ammoniati was freely applied, and a decided change was noted in twenty-four hours. Unfortunately our supply of white precipitate ointment became exhausted, and, being unable to get more at the time, I resorted to the citrin ointment, ʒi to ℥i. The simple unguentum hydrargyri was also used in case of emergency, but the best results were obtained from the white precipitate and citrin ointments. General tonics are indicated when the patient is in a state of debility, and plenty of fresh air and bathing are essential.

627½ Lorain Street.

FORMALDEHYDE DISINFECTION.*

BY W. K. JAQUES, M.D.
CHICAGO.

In formaldehyde we have a most valuable agent with which to control and destroy infectious germs, but the properties of this gas and its effects on living cells must be understood to apply it within its limitations. It is a well-known fact that, even in small quantities, it has a peculiar effect on fibrin, hardening and otherwise changing its physical properties. A small amount added to egg albumin or blood serum so changes them that they will not coagulate on heating. To the power of this gas to penetrate the cell wall of bacteria and alter its properties are we indebted for its germicidal qualities.

The destructive power of many pathogenic germs depends on their ability to multiply rapidly and overwhelm their host before resisting forces can be brought to bear. But it is a universal law of Nature that things of rapid growth are also of delicate structure, and therefore the cell wall of the rapidly multiplying bacteria is thin and easily penetrated by formaldehyde gas. The use of this gas at once suggests itself to retard the growth or destroy invading germs when they attack the respiratory tract. This can be done to advantage in those cases where the germ remains on the surface and is accessible to the gas. In bronchitis and slowly developing pneu-

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monia, especially in children, the growth of germs may be retarded and the remainder of the respiratory tract made unsuitable for invasion. Such a condition means speedy recovery of the patient. It is not possible for the safety of the patient to use the gas strong enough to penetrate diphtheria membrane and destroy the bacilli. It might be of value in limiting the disease if we did not possess a specific in diphtheria antitoxin. We can expect nothing in phthisis pulmonalis, because of the conditions to be overcome. In the tubercle bacillus we find a germ possessing strong resisting powers. It is a slow growth and has a horny outer capsule, containing spores protected by spore membrane. In addition to this the germ soon surrounds itself with an area of coagulative necrosis or inflammatory products. Any agent which would penetrate the inflamed area, then the coagulative necrosis and the resisting outer capsule would destroy the tissues in which the bacilli are found.

As soon as the valuable disinfecting properties of formaldehyde gas were known the Chicago Health Department became interested in it. The principle of its production was simply the burning of wood alcohol in contact with platinum, and many were the lamps of various sizes and prices which were tested. The cost of the platinum which was used in the construction of the chimneys made the lamps expensive, and the amount of formaldehyde gas given off was uncertain. After testing almost every apparatus that was put on the market for two years, the department found that the most satisfactory source from which to obtain the gas was from the 40 per cent. solution that is on the market. While looking for the cheapest source from which to obtain this, one of the largest chemical works in the country volunteered the information that there were only three places in the world where it was manufactured, and this was because of the large outlay required to produce it economically.

When this 40 per cent. solution of formaldehyde gas is quickly evaporated there is left in the retort a white waxy substance called paraform. This slowly unites with the air and again produces formaldehyde gas. For disinfecting purposes it is important to quickly cause the gas to leave the solution and impregnate the air of the room. To do this the globules of the solution should be as finely divided as possible, so that all parts will come in contact with the air. This is accomplished by throwing a fine spray of the solution on a suspended sheet. Care should be taken to do this so the edges of the drops do not touch each other, for if the sheet is wet the solution evaporates slowly and produces paraform instead of passing directly into the air as formaldehyde gas.

Cleanliness is the first and best half of disinfection. Malignancy in contagious diseases may be largely increased by the environment of the patients. The cholera germ only takes on virulence in the presence of decomposing filth. The tubercle bacillus is but the parasitic form of a pleomorphic mould, and can only exist where vital resistance is low and there is a suitable soil for its growth. Diphtheria is a poor man's disease, and its most malignant form is seen in an atmosphere of poverty. But clean poverty is a blessing compared to dirty comfort. The workingman's home in large cities is often filled with cheap rugs, plush furniture, curtains, and other department store trash that, during an illness of a contagious nature, become loaded with disease germs. Such a home is a menace to any neighborhood, and one of the important duties of a health department is to remove these plague spots.

The ideal disinfectant must be one that can be used by an average disinfector without causing complaint and injury to property. In formalin we have a disinfectant that will do the work in the shortest possible time, and it does not subject tenants to much inconvenience. The quarters of the poor in the cities are often so crowded that the giving up of a room for a day or even a few hours in cold weather may be a hardship. The destruction of the contagious element as near its source of production as possible should be our object. Receiving the discharges on cloths moistened with a weak formalin solution, and the disinfection of all infected articles as soon as the patient has been removed, is the best safeguard we have at present.

For use in the sick room the simplest and most effective way is to put two tablespoonfuls of the formalin into an earthen dish and pour into this a pint of boiling water. This dish may then be placed over a lamp or chafing-dish and kept below the boiling point. Near this point the gas is driven off in the greatest abundance. Above this evaporation takes place, with the production of paraform. By modifying the heat the amount of gas in the room can be controlled. It should be kept just below the point of irritation. As the patient becomes accustomed to its presence it becomes less irritating. It does not interfere with other remedies and can be used when the patient is asleep.

The advantages of formaldehyde disinfection over all other methods are numerous. Although a destroyer of odors, it has scarcely any odor. It does not attack and injure metals, as does sulphur, and there is no danger from fire. It attacks the weakest point of our pathogenic enemies' armor. It is not, however, a destroyer of lice, bedbugs, and other vermin. Neither will it injure the parasites that infest plant life. It can only be depended on to destroy pathogenic germs whose structure permits sufficient penetration to alter their protoplasm, and for this purpose it has no equal as a disinfectant.

DEMONSTRATION.

I have had a small model of a room made to illustrate the method of disinfection used by the Chicago Health Department. This room contains twenty-seven cubic feet. Our rule is to use five minims to the cubic foot of space, so that 135 minims ought to disinfect this. This model room is for the purpose of making the following experiment in your presence:

At the top and bottom of this small room will be placed a box and tube of culture-medium inoculated with typhoid bacilli, streptococcus pyogenes and Klebs-Loeffler bacilli. A small sheet will be suspended across the room, sprayed with 135 minims of formalin, and the room closed for twelve hours. We will then test the fumigation by placing these cultures in an incubator for twenty-four hours. The inoculated culture-boxes will show surface disinfection, while the test-tubes will show the power of penetration.

I also call attention to my method of impregnating a room with formaldehyde gas. I have taken an ordinary fifteen-cent night lamp—kerosene—and had a stiff wire bent so as to support a dish over the chimney. To the formalin placed in this dish is added boiling water, and the whole kept just below the boiling point by regulating the flame. In the absence of such a lamp a chafing-dish may be used, or, if there is a stove in the room, a dish may be placed on the back of it where the solution will not boil. It is only necessary to keep in mind the principle that formalin must be kept at the proper temperature in order to secure the best effects from the evaporation of formaldehyde.

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DISCUSSION.

DR. BEEM—This is the room that has been constructed by Dr. Jaques for the purpose of demonstrating the method of disinfection as performed by the Chicago Health Department (showing model). The rubber material over the outside is probably somewhat pervious to the gas, and part of it escapes during the time of the disinfection, but cultures have been placed in the room to determine the force of the disinfection. They are placed at various points. The disinfection simply consists in stretching a clothes-line across the room at any suitable place, usually as near the center of the room as possible; then on that clothes-line suspending a sheet by its edge. For every 1000 cubic feet, we will say one bed sheet, and on that sheet we sprinkle 150 c.c. of the formaldehyde solution, or five ounces, by means of a proper sprinkler. I show you the sprinkler we are using at the present time. It simply consists of an atomizer, and the tube is arranged so that not too much formaldehyde gets out at a time. Then all the clothes in the room are hung out on the clothes-line, beds are opened up, and books opened and stood on their edges, so that the formaldehyde comes in contact with every part of the material. Then the rooms are allowed to remain closed for five hours. At the end of that time we find that all the germs in the room have been practically killed. This has been demonstrated several times to the entire satisfaction of the bacteriologist of the department, as well as myself. (Dr. Beem here showed tubes of cultures of diphtheria and typhoid.)

In the six hours which we generally take for practical house disinfection, the growth is very materially delayed. Even after seventy-two hours of incubation there is very slight growth. We have also tried the germ of scarlet fever, which has recently been discovered, and we find that it has been destroyed in about the same length of time. The test-tubes which have been exposed show the penetrating power of the gas. It is claimed by a great many that the gas does not penetrate into small crevices. (He then indicated on diphtheria tubes, how far the gas had penetrated, under different conditions. He found that diphtheria is very easily killed.)

The tubes shown were from actual disinfections of houses, so the work was not done for any experimental purposes especially, but the disinfectors were given the culture-tubes to expose in the rooms of houses they disinfected. The cryptococcus was found harder to destroy than any of the other germs referred to, and the penetration was not as far as in the other tubes. (He then illustrated, by the tubes, the comparative difference of the killing power of the formaldehyde gas in staphylococcus and cryptococcus, the latter showing the greater resisting power.) These were exposed seven hours. Continuing, he said that there is no method at the present time which he considers equal to this one in formaldehyde disinfection, as practiced by the Chicago Health Department. The simplicity of the method presents itself at once.

A MEMBER—What about the bedding, the bed-clothes, and the mattress?

DR. BEEM—The bed-clothes are suspended over doors; just take them and hang them over the backs of chairs, in order to expose them as freely as possible.

A MEMBER—And it destroys all growths?

DR. BEEM—It destroys all growths.

A MEMBER—What about the mattress?

DR. BEEM—The mattress we leave on the bed, just on the springs, just as it is. We suspend the sheet over the mattress as near as possible. At the present time there are a great many generators on the market for the formation of formaldehyde, which is a gas absorbed by water. The water will hold about 39.67 of the gas, or, in other words, make a 40 per cent. solution. That should be the purity of the commercial article. In the generators the water boils off very quickly, leaving a concentrated solution. This concentrated solution forms a white substance in the bottom of the generator, called paraform. That paraform forms trioxid methyoln, which is then passed into the room in that form, a substance having very little disinfecting qualities but a great deal of stink, as they say. To obviate this the operators at the present time use methyl alcohol; they also add neutral salts; common table salt, or calcium chlorid is more often used.

POLIOMYELITIS ANTERIOR ACUTA ADULTORUM.*

BY HERMAN H. HOPPE, M.D.

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CINCINNATI, OHIO.

Poliomyelitis anterior acuta adultorum is a disease which, although it has been described many years ago, at first by M. Meyers, and later by Gumboldt in 1873, and by Shultz in 1878, is of extreme rarity, and on account of the difficulty of differential diagnosis is of sufficient interest to place two well-marked cases on record.

Rand was able to collect only thirty-six cases in the adult, and in a period of ten years since I have been interested in nervous diseases, I have had an opportunity of observing but two. On account of the newer views of the pathology of poliomyelitis, and especially on account of the difficult differential diagnosis and the unusual prominence and the sharp definition of newer diseases, such as peripheral neuritis, many cases of which were formerly grouped under poliomyelitis, it is of especial interest to place on record two cases which are beyond dispute.

In 1897, when Bruns and Windschild wrote an article on this form of poliomyelitis, for the "Twentieth Century Practice," they said: "We must admit, however, that there exists in the adult a disease which is wholly analogous to infantile spinal paralysis. This poliomyelitis adultorum is, however, in itself, and especially in comparison with infantile paralysis, a very rare disease."

CASE 1.—Edward B., aged 28, unmarried, has previously been perfectly well. His mother died of tuberculosis, and he has one sister who is deformed as a result of caries of the spinal column; a step-brother, child of the second wife, shows marked imbecility closely resembling cretinism. The patient himself denies having ever had any venereal diseases, especially syphilis.

On April 1, 1895, while rapidly walking from his residence to the railway station, a distance of probably a thousand feet, the patient noticed, as he stepped on the platform of the station, that his left leg was growing weak, and the moment he stepped on the rear platform of the car he fell to the floor and had to be assisted to a chair. He had no pain nor any other abnormal sensation. Arriving at the city station he found that he could not use his left leg, except with great difficulty. Calling a cab he rode about town, attending to his business, but when he returned home at night he had to be carried from the train on account of the involvement of his right leg. On the next day he was without fever, but was unable to leave his bed.

Dr. F. W. Langdon, who was with him the day after the onset of the paralysis, states that both arms were affected, but the patient was still able to make some movement with his hands and fingers; both legs were completely paralyzed. He reports that the sensation of both arms and legs and all its qualities were perfectly normal.

I saw the patient the next day, i. e., forty-eight hours after the onset of the paralysis, when there was present a complete motor paralysis of all four extremities, together with the muscles of the neck, so the patient was unable to raise his head from the pillow or move it from side to side without the assistance of the nurse.

Examination.—Intelligence seemed normal; the pu-

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pils equal in size, and they reacted both to light and accommodation. The papillæ were normal, and there was no defect in the movements of all external of the muscles of the eyeballs. The muscles of the face were normal. The tongue protruded in the median line; the soft palate was normal. Sensation of the scalp and face was normal on both sides. There was no loss of the sense of smell or taste, but complete absence of all voluntary movements of the muscles of the neck; the patient was unable to turn his head from side to side or raise it from the pillow. The muscular movements of both the right and left arm were reduced to a slight movement of the fingers; he was unable to raise the arm from the bed or to flex the arm on the forearm; and could not use the pectoral muscles nor shrug the shoulders nor lift them.

There was no tenderness of the nerve trunks; no hyperesthesia thereof, nor any diminution or loss of sensation in any of its qualities. The lower extremities were absolutely immovable and there was the same complete absence of tenderness on pressure over the nerve trunks or of any disturbance of sensation. The appetite was good and there was no disturbance of the action of any of the sphincters, nor loss of sexual desire or the power of erection.

The electric examination, one week later, showed a complete loss of all faradic irritability, both direct and indirect. The galvanic reaction through the nerve trunks was absent in all of them, with the sole exception of the right ulnar nerve. The direct response of the muscles was weak and slow. In a word, there was a complete reaction of degeneration in all the muscles of the body, including the neck.

The return of muscular power began to take place after the first week. The patient was soon able to move his legs, arms and head, but the movements were characterized by great weakness, and it was only in the third week that he was able to use the muscles of his right thigh at all. After this there was a steady progress, the patient gradually gaining control of most of his muscles. After three months he was able to walk, with the assistance of a nurse. There was great wasting of the muscles, and the patient's weight was reduced to 106 pounds.

Treatment.—Ergotin was used for the first three days, two weeks after that small doses of iodid and bichlorid of mercury for three weeks; after the third week massage and general faradization. Massage and electric treatment were kept up for two years. After this period there still remained some general weakness, especially marked in the quadriceps femoris.

Examination, June 1, 1899.—Four years after the attack there is present a normal electric reaction of all the muscles of the body as well as their nerve trunks, with the exception of the left ulnar nerve, which does not respond normally to the galvanic current, although the muscles supplied by the ulnar nerve are prompt in their reaction. The volume of muscular strength has never returned to its normal condition. All of the muscles both of the upper and lower extremities are weaker than they were before the attack, but the patient walks without an effort, on the level, but has some difficulty in climbing steps. The muscles have not returned to their normal size. This is especially true of the legs. The patient thinks, however, that he has fully recovered.

CASE 2.—John R., aged 48 years, a native of Ireland, and keeper of a lunch stand, was admitted Jan. 8, 1899, to the neurologic service of the city hospital. He was discharged May 2, 1899, improved. The family history showed that his father and mother, also two brothers were dead, the causes unknown. One sister was living and well. He had the ordinary diseases of childhood, malaria, piles for the past eighteen years, but no drug habits, and no syphilis. He had been perfectly well up to within one month, when he was attacked with diarrhea which weakened him very much, and during the course of this he lost seven pounds in weight. One week before admitted to the hospital, he noticed a weakness in the left leg, on rising in the morning, and this increased during the day. The right leg became involved on the following day and on the third he was confined to his bed, unable to walk; at the same time his arms became paralyzed, and at the end of a week, on admission to the hospital, he was perfectly helpless. He said that he had a chill and a high fever, but that disappeared on the third day. He had no pain at any time, no hyperesthesia or abnormal sensation of any kind, no headache, no dizziness, and the sphincters were normal.

Examination.—His mental condition was normal, memory good, and the pupils reacted to both light and accommodation. All regions supplied by the cranial nerve were normal. There was a slight nasal intonation of the voice, but no difficulty in swallowing and no paralysis of the soft palate. He was unable to move the head from side to side or raise it from the pillow. There was no voluntary action of any of the muscles of the neck, but absolute loss of all muscular power of the muscles of the upper and lower extremities. He was unable to move either arm or either leg, and there remained only a slight movement of the fingers. There was no hyperesthesia of the skin, no tenderness over the nerve trunks, no loss of sensation, no abnormal subjective sensation. There was an absence of all reflexes excepting those of the skin, pectoral muscles and all of the back, which were also paralyzed. The patient was able to flex the fingers and flex and extend the toes. Sexual functions were normal, and there was no involvement of the sphincters of the bladder or rectum. No evidence of syphilis could be found in any part of the body. Sensation in all its qualities, heat, cold, pain, and touch remained normal.

The electric examination showed an almost complete reaction of degeneration in all muscles of the body. (For details, see chart.) The urine showed a small quantity of albumin.

Treatment.—This consisted of 1-3 gr. of bichlorid of mercury every second day, and 1-60 gr. of sulphate of strychnin every four hours, together with a hot bath every afternoon at 4 o'clock. The patient began to improve almost at once. In twenty-four hours he was able to move the arms, flex the forearm on the arm, and after forty-eight hours could raise the arm from the bed, and move the legs. The improvement continued, and at the end of the first week he was able to raise the head from the pillow, and on the tenth day could walk with the assistance of the nurse. In three weeks he was able to walk alone, with ease, and could use all the muscles of the body, but the movements were characterized by great weakness. The electric irritability began to return after six or eight weeks.

Examination, May 1, 1899.—The results with the faradic current, under Dr. Hoppe, showed both pectorals negative; the median nerve reaction was present but very small; the musculospiral absent on both. The median nerve responded better on the left than the right. Muscular response was also better on the left. The faradic response returned to all the muscles of the

POLIOMYELITIS ANTERIOR ACUTA.

HEAD and UPPER LIMB.		Right. F	Right. G Qat.	Right. G Qlt.	Left. F	Left. G Qat.	Left. G Qlt.
Facial	Orbicularis palpebrarum			+			+
	Lower facial muscles			+			+
Spinal Accessory	Palatal muscles						
	Laryngeal "						
Do. with II & III Cerv.	Sterno-mastoid						
	Trapezius						
Hypoglossal	Lingual muscles	0		−		−	−
Do. with II & III Cerv.	Sterno-thyroid	0		−		0	−
	Sterno-hyoid			+			
II Cerv.	Complexus	+		−		+	+
	Splenius	+		−		+	−
III Cerv.	Lev. anguli scapulæ.			−		+	−
V Cerv.	Rhomboids						
Post Thoracic	Serratus magnus	+					
Supra scapular	Supra-spinatus	0		+			
	Infra-spinatus	0		0			
Ext. ant. thoracic	Pectoralis Major, Upp. part	0		0			
Int. ant. thoracic	Pectoralis Major, Low. part	0		0			
	" Minor	0		0			
Musculo cutaneous	Coraco-brachialis			0			
	Biceps			0			
	Brachialis anticus	0		0			
Subscapular	Subscapularis	0		−			
	Teres Major	0		−			
	Latiss. Dorsi			−			
Circumflex	Deltoid			−			
	Teres Minor	0		−			
Musculo spiral	Triceps	0		−		0	
	Ext. Carp. Rad. Long.	0		−		0	
	Supinator Long.	0		−		0	
Post interosseous	Supinator Brevis	−		+		0	
	Ext. Carp. Rad. Brev.	0		−		0	
	Ext. Carp. Uln.	0		−		0	
	Ext. Comm. Digit.	0		+		0	
	Ext. ossis metac. poll.	0		+		0	
	Ext. primi. intern "	0		+		0	
	Ext. secund. " "	−		+		0	
	Ext. indicis	−		+		−	
	Ext. minimi digiti	−		−		0	
Median	Pronator radii teres	−		+		−	
	Palmaris longus.	−		+		−	
	Opponens pollicis	0		+		0	
	Adductor pollicis	−		−		−	
Median & Ulnar (jointly)	Flexor longus pollicis	0		−		−	
	Flexor carpi radialis	−		−		−	
	Flexor sublim. digit.	0		−		−	
	Flexor brevis pollicis	−		−		0	
Ulnar	Flexor carpi ulnaris	−		−		−	
	Adductor pollicis	−		−		−	
	Muscles of little finger	−		−		−	
	Interossei	−		−		−	

TRUNK and LOWER LIMB.		Right. F	Right. G Qat.	Right. G Qlt.	Left. F	Left. G Qat.	Left. G Qlt.
Intercostals	Intercostals	0		−			
	Rectus Abdominis	0		−		0	
	External oblique			−		0	
Branches of Lumbar Nerves	Erector Spinæ	−		+		−	
	Quadratus Lumborum			+			
Genito-crural	Cremaster			+			
Anterior Crural	Sartorius	0		−		0	
	Pectineus			−			
	Rectus femoris	−		+		−	
	Vastus externus	0		+		0	
	Vastus internus	0		+		0	
	Crureus	0		+			
Obturator	Gracilis			+			
	Adductor longus			+			
	Adductor brevis	0		+		(+)	
	Adductor magnus (with sciatic)	0		+		0	
Small Sciatic	Gluteus Maximus	0		+		0	
Sup. gluteal	Gluteus Medius	−		+		0	
	Tens. vag femoris	−		+		0	
Great Sciatic	Biceps femoris			−			
	Semitendinosus	0				0	
	Semimembranosus	0				0	
	Adductor magnus (with obturator)	0				0	
Int. popliteal	Gastrocnemius	0				0	
	Soleus	0		−		0	
	Tibialis posticus	0		−		0	
	Flex. comm. digit.	0		−		0	
	Flex. long hallucis	0		−		0	
Plantars	Flex. brev. hallucis	0		−		0	
	Flex. brev. digit.	0		−		0	
	Abductor hallucis	0		−			
	Adductor hallucis			−			
	Ext. brevis digit			−			
	Interossei			−			
Ext. popliteal	Tibialis anticus	0		−		0	
	Ext. prop. hallucis			−			
	Ext. digit. longus			−			
	Peroneus longus			−			
	Peroneus brevis			+			
				−			

upper extremities. The anterior nerve reaction was absent on the left. The anterior crural muscles were very slightly active. The anterior crural nerve reaction on the right was absent, but the anterior crural muscular response present, though diminished. Reaction of the left tibial was present, also the right, but absent in the left and right post-tibial; the muscular response also. The reaction was absent from the muscles of the calves. Atrophy of the muscles was still present, very few having returned to normal, the sternocleidomastoid being an exception. The response was more marked on the ulnar surface on the right than on the left, also in the small muscles of the right hand. There was well marked atrophy of the anterior surfaces of both thighs, especially in the quadriceps femoris.

In calling the attention of this Section to these cases of acute poliomyelitis anterior adultorum, I am convinced of the fact that I am not presenting anything new. I feel, however, that two such sharply-defined and well-marked cases as the above should be placed on record, especially as it is more than probable that some of the earlier cases were confounded with peripheral neuritis or disseminated acute myelitis.

These cases are also interesting on account of the extent of the paralysis, all four extremities together with the muscles of the neck being involved. In the tables of cases collected by Duchenne and Seelegmiller, in children, one extremity alone was affected in more than 50 per cent. of cases, whereas the four extremities were affected in only 2 per cent.

Pathological Anatomy.—A change has taken place in our ideas of the pathologic anatomy of acute anterior poliomyelitis. Our first knowledge was based on the researches of Cornil and Lockhart Clark. In 1870 Charcot and Joffroy were the first to make known more generally to the medical world the relation between the disappearance of the ganglionic cells of the anterior horns and the flaccid atrophic muscular paralysis, and they formulate the law that the disease consists of a primary acute inflammation of these ganglionic cells and not of an acute inflammatory softening of the interstitial tissue or of a hemorrhage, and that all other

changes were secondary to the destruction of the ganglionic cells. It was very easy to take the next step and attribute all the diseases of the motor system, characterized by a flaccid atrophy of the muscles, into three groups and attribute them to an acute, subacute and chronic inflammation of these ganglionic cells.

We know how this erroneous doctrine jumbled together acute anterior poliomyelitis, peripheral neuritis —which was looked on as subacute anterior poliomyelitis —and chronic progressive spinal muscular atrophy, and taught us to look on them as of a common pathologic origin, the clinical difference being due to a difference in the degree of inflammation. This opinion was accepted universally, and still holds sway among the rank and file of the medical profession, although it has been overthrown as long ago as 1883, by the researches of Archambault and Damaschino, who showed that it was not a primary disease of the ganglionic cells but an interstitial myelitis of the anterior horns, vascular in its origin. This has been confirmed by the more recent researches of Schultze, P. Marie, Goldscheider, Siemerling and Redlick.

We to-day know that acute anterior poliomyelitis exists as a disease *sui generis;* that it is a distinct disease, the result of an infection, which has for its pathologic seat of predilection the gray matter of the anterior horns, and that the infectious material is carried to the horns by way of the central spinal artery. It is primarily a disease or an inflammation whose seat is the gray matter of the spinal cord.

An exudation of serum and leucocytes takes place around the small vessels, arteries, and capillaries. The ganglionic cells are affected secondarily, by the chemical action of the pathologic serum or by pressure resulting from the exudation of the inflammatory material. This inflammatory exudation is not limited to the gray matter of the anterior horns, but there is very frequently an inflammation with an exudation of the pia mater and the white matter of the anterior column at the point of entrance of the vessels which are the carriers of all the infectious agent.

If this view is correct, then all the apparent cases of acute anterior poliomyelitis following a previous acute infectious disease, such as measles, scarlet fever, typhoid fever and gonorrhea are not acute anterior poliomyelitis in the strict sense of the word, but a focal or disseminated myelitis. The distinction which I make will be readily understood. The seat of the inflammation is the same, whereas the disease in its etiology is radically different. Just why the central spinal artery should be the seat of predilection for the disease can no more be explained than the same phenomena in other acute infectious diseases.

These views are radically different, at least in the adult, from that expressed by Bruns and Windschild, who state that poliomyelitis adultorum is almost always seen as a complication of a sequel to acute infectious diseases. The two cases above recorded show that it may occur as a primary affection. The agent at work in producing the disease is not known. All the other causes, like over-exertion, heavy colds, exposure and traumatism are, in my estimation, only predisposing causes. This fact is further borne out in Rank's statistics—in twenty-five out of thirty-six cases, no other cause could be attributed than exposure to cold.

Symptomatology.—There is no need to dwell on the clinical symptoms of acute anterior poliomyelitis. They are the same in the adult as in children. The unusual feature about both of these cases was that the entire body, from the angle of the jaw down—i. e., in the neck, upper and lower extremities—was completely paralyzed; the other feature was the absence of pain, and all other sensory disturbances.

Authors have called attention to the fact that pains may be present in the nature of shooting pains, or of tenderness over the nerve trunks. I believe that such are not pure cases of anterior poliomyelitis, but rather, either focal myelitis or multiple neuritis. Another feature that bears out the newer pathology views is that the ganglionic cells are affected secondarily, which in the primary diseases is borne out by the history of the first case, in which improvement in the muscular tone and power continued four years after the first onset of the disease. This ought to have an important bearing on our methods and manner of treatment; therefore no matter how small the improvement and how slowly it takes place, we are not to despair, but should continue to treat the case for two or three years.

Differential Diagnosis.—The question may arise, on account of the wide distribution of the paralysis, the involvement of the muscles of the neck as well as all four extremities, as to whether or not these two cases have been properly classified. There is no difficulty in ruling out multiple neuritis, on account of the absence of all sensory disturbances and of tenderness of the nerve trunks. Cervical myelitis can be ruled out by the absence of sensory symptoms and absence of involvement of the bladder and rectum. The progressive involvement from the lower extremities to the muscles of the neck would also render this untenable. The same reasons would hold for hematomyelia cervicalis. Landouzy and Dejerine have described what they termed "acute curable atrophic paralysis," in which, without much general disturbance, there is an equally distributed paralysis of all four extremities, rapid in its onset, wasting of muscles and reaction of degeneration. The cranial nerves are intact, there is no sensory disturbance and the sphincters are normal in their action. Recovery is perfect. It is generally held, a view which is clearly proven by the above symptomatology, that the above is only a modification of anterior poliomyelitis, and although both of our cases resemble the above very much, there is no need of quibbling about terms. The greatest difficulty encountered in both cases was the ruling out of Landry's paralysis, and it was not possible to do this with certainty for the first week or ten days. In this latter, of which I have seen but one case which ended fatally, the paralysis begins in the feet and extends upward, so as to involve the four extremities, muscles of the neck and, in fatal cases the medulla oblongata, and causes death by paralysis of the respiratory or cardiac centers: while the motor system is mainly involved, there may be sensory disturbances. The paralysis is of the flaccid variety, the sphincters are intact, even the involvement of the medulla with difficulty of breathing and deglutition does not afford positive evidence in favor of Landry's paralysis, for in acute anterior poliomyelitis the centers in the medulla may likewise be involved—Oppenheim, Goldscheider, etc. If the case does not end fatally within the first ten days or two weeks, the differential diagnosis, according to the original article of Landry's, is easy, for in his paralysis there is neither atrophy of the muscles, nor any reaction of degeneration. The observations of Landry were confirmed by Kussmaul, by Pelgrino, Lewi, who reported the case of Cuvier, by Bernhardt and Westphal. The latter laid down the law that three factors are essential for the diagnosis of Landry's par-

alysis: 1. The ascending course of the paralysis, ending fatally. 2. Normal electric reaction of the paralyzed muscles. 3. Absence of all pathologic changes at the post-mortem examination. If we held strictly to these conditions, there would be no difficulty about the differential diagnosis, but the views have changed very much since then. Cases have been described in which the course of the paralysis has been a descending instead of an ascending one. Changes have been found in the electric reaction from a slight diminution in the quantity to a complete reaction of degeneration, although it is true that cases have been observed which existed for a month without showing any atrophy of the muscles, or changes in the electric reaction. Goldscheider vigorously opposes those who hold that cases which show these degeneration changes should not be classed with Landry's disease, but even goes farther and, basing his opinion on published cases and some of his own, states that we can have all degrees of change from a slight diminution to a complete loss of sensation, and in addition we may have atrophy of muscles and loss of function of the sphincters. With this state of affairs, we have a feeling of relief, when Goldscheider states that very many of the numerous cases reported must be looked on as doubtful.

Many pathologic changes have been found in recent cases since researches are made with better methods and with greater care; so that pathologically, Goldscheider, Oppenheim and others divide the cases into two groups: those in which there is a central inflammatory or hemorrhagic disturbance throughout the entire gray matter of the spinal cord and medulla, and cases which should properly be classed as acute peripheral neuritis. From all this we must conclude that, while Landry's disease may and does exist as a clinical entity, i. e., as an acute ascending paralysis; it has no distinct or individual pathologic basis. In anterior poliomyelitis in which there is an involvement of only one or even two extremities, there will be no difficulty in differentiating the condition from Landry's disease, but in cases like the two recorded in this paper, it seems to me that we have but one point to go by, the absence of sensory disturbances, either subjective or objective, in acute anterior poliomyelitis, and its presence in Landry's paralysis. In all other respects the two diseases may be identical.

DISCUSSION.

DR. F. W. LANGDON, Cincinnati, Ohio—It was my privilege to see the first of the two cases reported by Dr. Hoppe. There are one or two points in connection with that first case which have impressed me in thinking over the matter, since a short talk with Dr. Hoppe a few days ago. One is in respect to the young man; I was called to see him when I was just on the eve of a trip abroad, and recognized the condition as an unusually typical one of poliomyelitis. The history impressed me as of considerable interest. The evening before, as I recall it, he had gone to a restaurant, and eaten a large beefsteak, immediately after which he went to a gymnasium and took a cold shower-bath. He then spent the evening with some friends in the city. The onset, twelve hours later, of weakness in the leg, followed rapidly by paralysis of the whole body, was suggestive to me of a possible connection between arrest of digestion by the cold bath and a consequent ptomain poisoning. The next I had was an infant less than 2 years old, who had been given a large piece of bologna sausage by a butcher, and in two days also had a typical poliomyelitis anterior, so that the question of development of a special poison from dietetic products naturally suggested itself to my mind. As regards the distinction between poliomyelitis and Landry's paralysis if we are only going to say that one does and the other does not get well, that is not a very clear pathology. We can readily understand the fact that an overdose of poison in one case might cause death while the patient might survive a less quantity. As regards Landry's paralysis, always beginning in the lower extremities and ascending, in about as typical a case as I ever saw the arms were first affected.

DR. W. A. JONES, Minneapolis, Minn.—I think I saw a case of poliomyelitis in an adult two or three years ago—a young man of 24, who had been previously well. He was taken during the night with some acute disturbance, the nature of which we were unable to determine. The following day he had a paralysis of one leg, which gradually developed, and a paralysis of the opposite succeeded, but was only affected in a very mild degree. He had absolutely no sensory involvement, and none of the bladder or rectum, but he had what a great many children have, a rapid wasting of the muscles. The condition went on for a year or two before I saw him, and by that time he had the usual contractures and had passed beyond the flaccid stages of poliomyelitis. It was the first case I had ever seen, and interesting on that account.

A. E. STERNE, Indianapolis, Ind.—I think I can add two cases to this, one is a colleague of ours, who is present at the meeting of this ASSOCIATION and whom I intended to have here this afternoon. I saw him, as Dr. Jones mentioned he did in his case, a short time after the acuteness of the illness had passed away. It seems, however, that in these two we have a distinction to make which Dr. Hoppe mentioned, i. e., in almost all of the cases reported—and they are few—an infectious disease had previously been experienced. He makes the distinction in his cases that these, therefore, are not to be classed truly as conditions of acute poliomyelitis anterior. That distinction is not, on the spur of the moment, easy to subscribe to, as I have always considered these typical cases of poliomyelitis. At the time I saw the first case of mine, I had not heard of a single one of adult poliomyelitis, and had supposed it to be unique, and so referred it to the medical society. The legs were not involved, but both arms were totally paralyzed. There was absolutely no evidence of a neuritic character; no pain, no pressure points, none of the significant marks which we usually associate with such disturbances. The man's father had had acute articular rheumatism, and his mother at the same time, about three months before he became ill. He had attended both. A short time before he became paralyzed in the upper extremities, he began to have pains in various joints, but the joints did not develop the typical pains which we are wont to see in acute arthritis. I have always regarded that case as a case of post-arthritic poliomyelitis, and the marks of the condition were typical enough; decrease of electric reaction without absolute reaction for degeneration; faradic irritability was lost, but the reaction for degeneration to the galvanic current had not set in at the time I saw him, nor had it ever made its appearance, because he was immediately put on treatment and has completely recovered. He was treated steadily for four months, twice a day with the galvanic current until the faradic irritability was restored, and after that with massage. He now uses his arm perfectly. At the time I saw him the supra- and infra-scapular, the deltoid and the extensor muscles were completely paralyzed. He now does his operating himself, and while he still has considerable atrophy, notably in the smaller extensor muscles of the hand, he can get along perfectly well. He is 25 or 26 years of age.

The second case occurred almost immediately after the first. It was also in a young man, who looked in about as near a moribund condition as a walking person could. He was brought to me for consultation, by his family physician, and had a severe typical malarial intoxication, giving the typical febrile reaction that we find in Indiana to-day. Both of these developed suddenly, just as we find in children. Both of them, moreover, thought they had simply an acute gastritis. The paralysis was sudden and more wide-spread right at the start, although, as I say, the legs were not involved beyond weakness. The second patient did not respond to treatment. The atrophy remained. I concluded, however, that the ill-success with him was due to the fact that he was still suffering from intense malarial intoxication that had in all probability started the spinal disease. He dropped out of my sight, and

was taken to the hospital, and within a reasonable time, I think possibly four months after I first saw him, he died, and the post-mortem, so much as could be made, revealed a typical case of anterior poliomyelitis. It is the only typical case with a post-mortem that has been reported at all in the adult; the complete report of the case still remains in abeyance.

DR. AUGUSTUS A. ESHNER, Philadelphia—An alteration in any portion of the peripheral sensory neuron, or of the peripheral motor neuron, might readily give rise to the symptoms present in these two cases and similar ones. Nor need we conceive that alterations of this sort are necessarily dependent on any one single toxic influence. There are a variety of agencies, some of bacterial origin, as the infectious diseases, some of toxic, as from poison introduced from without, or generated within, the body, as alcohol, mercury, lead, gout, diabetes, uremia, that are capable of affecting the peripheral motor or sensory neurons, and at times it is exceedingly difficult to make the differentiation.

DR. F. SAVARY PEARCE, Philadelphia—Dr. Sterne, in saying that malarial intoxication was a probable cause of the paralysis, reminds me of a case of locomotor ataxia which I reported last year, in which, so far as I could trace the etiology, the tabes was due to acute malarial intoxication. The case I reported was a precocious one, occurring in a young man in whom there was absolutely no syphilitic history. Overwork alone as the probable cause, was also ruled out when it was learned that the symptoms rather suddenly supervened on acute severe malarial fever.

DR. H. H. HOPPE, Cincinnati, Ohio—Many of the cases of anterior poliomyelitis in children are not poliomyelitis in the strict sense of the word, but focal myelitis. We know that epidemics of poliomyelitis have been reported, one in Stockholm, where thirty cases occurred in a single physician's practice. While the anterior horn or the gray matter of the anterior horn is not a very large area, small areas are perfectly capable of setting up in children or adults a focal myelitis that would simulate poliomyelitis, but I did not regard them as true cases of poliomyelitis. I have placed these two on record because of the extensive involvement of both sides from the lumbar to the cervical region.

CASE OF SPINAL ANTERIOR SUBACUTE GENERAL PARALYSIS.

BY C. EUGENE RIGGS, A.M., M.D.
ST. PAUL, MINN.

On Nov. 24, 1897, Miss A. B., aged 27, a student, and single, consulted me. She had always been perfectly well, with the exception of an attack of measles six years before. There was no history of syphilis or tubercular disease in the family, and no neurotic tendency. Six months before I saw her, she first noticed difficulty in walking. For a year previous to that time she had suffered from cramps in the calves of both legs, which, later, involved the thigh, abdominal muscles and both forearms. At the time she first noticed the trouble in walking there was no pain, but the gait gradually became more and more involved until when I saw her it was of a hobbling character. There was marked weakness of the tibial and peroneal groups of muscles in both legs. The limbs were cold and white. The thigh muscles, posterior aspect, were paretic, especially on the left side. The psoas iliacus and abdominal muscles were also paretic. The patient could not lift herself into the upright position when lying flat on her back. Flexion and extension of the muscles of both legs were much impaired. The flexion of the left foot on the ankle was very slight, and there was some diminution of the same motion in the right foot. The muscles of the legs were greatly atrophied. The organic reflexes were unimpaired. There was static ataxia. Sensibility was normal. There were no subjective sensations. The knee-jerk was normal, there was no ankle-clonus, and the superficial reflexes were normal. The motility of the arm was impaired and the deltoids perceptibly weakened. The dynamometer showed the right hand twenty; left hand, fifteen. Flexion and extension of the arms were impaired. Sensibility of arms was normal, and there were no subjective sensations in them. The wrists and triceps reflexes were normal. The pupils reacted normally to light and accommodation, the ocular muscles were normal, there was no vasomotor disturbance, the mental condition was unimpaired, and no disease of the kidneys was present.

The development of the disease in both extremities simultaneously, together with the extensive loss of power and the fact that the knee-jerk was preserved when there was such extensive involvement of the muscles of the lower extremities, created in my mind a doubt as to whether the trouble might not be peripheral rather than central. It seemed possible the case might be one of those described by Gowers as a purely motor neuritis, and therefore painless. The course of the disease, however, dissolved this doubt. The patient went into the hospital for four months; shortly after she left, atrophy of the left thenar and hypothenar eminences began. The lumbricales and the interossei also became involved. There was also weakness of muscles of the forearm and arm, the muscles showing a quantitative electric change while the muscle and nerve formula on the opposite arm was normal. (There was also atrophy of the muscles of the scapulo-humeral group.) All muscles showed quantitative electric change.

Along with the atrophy of the muscles of the hand there developed muscular twitchings which extended all over the body, with the exception of the anterior aspect of the chest, and were most severe in the atrophied muscles. This tremor seemed to comprehend in its range both fibrillary tremors as well as movements of the whole muscular mass. I have never seen the same kind of tremor save in one indisputable case of progressive muscular atrophy of the subacute type. I was quite apprehensive lest these tremors might mark the beginning of progressive muscular atrophy with a subacute onset. Charcot says that progressive muscular atrophy may follow infantile spinal paralysis, and by analogy one can see no reason why it might not follow spinal paralysis in the adult.

The disease increased steadily until October, 1898, when its progress seemed to undergo an arrest.

Of course a case of this sort barely serves to suggest the difficulties of diagnosis that may arise between poliomyelitis and polyneuritis. The closest students of the subject still hold widely varying opinions as to the relations of the two diseases. Erb considers all cases of amyotrophic paralysis as depending on an alteration of the ganglionic cells of the anterior horns of the cord; the multiple neuritis observed in some cases he considers as much a trophic trouble as the concomitant muscular atrophy. Sometimes the primordial lesion of the gray substance is dynamic only, and then histologic examination does not show any modification of structure save in the nerves themselves.

For Strumpel, polyneuritis is a distinct morbid entity with an individuality all its own, which one may set over against poliomyelitis as one contrast class which differ by their nature, cause and the seat of the lesion, having nothing in common save a great analogy of symptoms.

Gowers inclines to Strumpel's [illegible]

lieves that "many subacute and chronic cases which have been described as atrophic spinal paralysis are peripheral, not central in their nature, and are cases of multiple neuritis. . . The history of the subacute spinal disease has been largely written from cases of multiple neuritis." On the other hand, he thinks that cases of central disease have not infrequently been considered peripheral.

Marie gives it as his conviction that in the majority of cases "the pretended peripheral neuritises are simply the consequence of central alterations and that among these central alterations those of the gray medullary substance play the principal part."

Raymond is inclined to believe that amyotrophic paralyses associated with multple neuritis and amyotrophic paralyses of manifestly spinal origin are "similar morbid conditions developing under the influence of the same causes, which appear to affect indifferently any portion of the apparatus represented by these three organs, viz., the ganglionic cells of the anterior horn, the motor fibers and the muscular fibers." That is to say, the morbific influence may attack any part of the neuro-muscular apparatus; either the muscle, the axis-cylinder, or the ganglionic cell itself, or all three of these simultaneously. He is, however, also of the opinion that in the pathogeny of amyotrophies, the dominant element is the dynamic or structural alteration of the trophic spinal centers.

The most suggestive recent contribution to this complicated subject has been made by Marinesco[1]. There are certain constant lesions in a nerve-cell which follow the section of a nerve-trunk. These have been verified by repeated experiments by various investigators. Precisely the same lesions have been observed and described in histologic examinations of the nerve-centers following neuritis. As these secondary lesions of the nerve-cell differ pronouncedly from primary lesions of the same substance, it seems safe to assume that they follow the neuritis rather than precede it. Marinesco distinguishes two stages in the development of these lesions. In the first phase the chromatic elements of the cell undergo more or less dissolution; in the second phase the trophoplasm itself undergoes modification. "From this time on the neuritic lesion is irreparable. and what may be termed the poliomyelitic phase of polyneuritis has begun." If Marinesco's deductions are correct, the differentiation between a simple polyneuritis and a polyneuritis in which the "poliomyelitic" phase has begun, is absolutely impossible.

NOTE.—Since preparing this article some three months ago, I have noted beginning involvement of the intrinsic muscles of the right hand. It is now just one year since the disease began to invade the like muscles of the left hand.

Pneumotoxin.—After denying, for years, the existence of a pneumotoxin, Pane has at last succeeded in producing it himself, with extremely virulent cultures. He also announces that a mixture of diphtheria toxin and antitoxin fatal for rabbits can be borne by guinea-pigs without injury; also that animals can be saved by the intravenous injection of an amount of antitoxin which, injected hypodermically would be ineffective. He is convinced that the action of therapeutic sera is not a chemical neutralization of toxins but a biologic reaction induced in the organism. Maragliano also asserts that the injection of tuberculosis antitoxin leads to the production of more antitoxin in the organism.—*Report of Ital. Cong. of Int. Med.*

[1] Revue Neurol., 1896, No. 5.

Special Article.

DECISION ON OSTEOPATHY.

Harry Nelson, Plaintiff, vs. State Board of Health, Defendant, in Jefferson Circuit Court, Law and Equity Division.

Opinion by Sterling B. Toney, Judge.

SYLLABUS OF POINTS DECIDED.

1. The statutes of Kentucky against empiricism are *constitutional.*
2. Whether a school of medicine from which a party holds a diploma is a *reputable medical* college, is a question alone and exclusively for the State Board of Health to decide.
3. Mandamus will not lie to compel the said Board to decide a particular way. Their act is quasi-judicial and is not subject to mandamus.
4. On the merits, held that the American School of Osteopathy at Kirksville, Mo., from which the plaintiff holds a diploma, is not a *reputable medical* college; and that the State Board of Health is right in refusing to allow the plaintiff to practice osteopathy in this state. The evidence analyzed and the law reviewed.
5. Historic review of kindred quack schools of mysterious healing.

This is a suit in equity by the plaintiff, Harry Nelson, against the State Board of Health of Kentucky, to enjoin it from instituting or causing to be instituted against him a criminal prosecution for treating or attempting to treat in this state sick or afflicted persons by the system or method of healing known and called "Osteopathy," and for practicing or attempting to practice medicine or surgery in this state according to said system.

The plaintiff in his petition avers "that the defendant, the State Board of Health, unless enjoined from so doing, will have him arrested, prosecuted and fined for practicing or attempting to practice in this state medicine and osteopathy, under the provisions of an act of the General Assembly of Kentucky approved March 18, 1898, entitled "an act to amend an act, entitled 'An Act to protect Citizens of this Commonwealth from empiricism' approved March 10th, 1893."

He further alleges "that he is advised and so states the fact to be that the said act of the Legislature of Kentucky under which the defendant is about to have him prosecuted criminally, is in violation of the bill of rights and is unconstitutional and void, and by reason thereof, is of no force or virtue in law."

He further avers in his petition "that he is a graduate of and holds a diploma from the American School of Osteopathy at Kirksville, in the State of Missouri, at which said institution he graduated Dec. 15, 1897," and he alleges "that the said American School of Osteopathy is a reputable and legally chartered medical college, with a large and learned body of professors, and a large patronage of pupils;" and in support of this allegation, as to the character of said school or college, he files with his petition a catalogue of the same, marked "Exhibit B," and states that the said American School of Osteopathy as Kirksville, Mo., is entitled to be indorse and recognized by the State Board of Health of Kentucky, the defendant therein, and that the said plaintiff, as one of its graduates, is entitled to carry on his business as a practitioner in osteopathy in this state without hindrance, examination or molestation by the defendant, the said State Board of Health. He alleges "that the defendant is . . . the peculiar school or system of healing, [illegible] as osteopathy, to which the plaintiff belongs, and has failed and refused, and still fails and refuses, to indorse the said college as a 'reputable and legally chartered medical college of another State,' to-wit of the State of Missouri, or to grant to him, the said plaintiff, a certificate of that fact, so as to authorize him to practice his said profession of osteopathy in this state without subjecting him to the penalties of the law." The plaintiff has framed his petition in a double aspect, and prays for alternative relief, to the effect that if he be not granted the injunction prayed for, to prevent the State Board of Health from having him prosecuted, then for a writ of mandamus to compel the defendant to recognize and indorse the said American School of Osteopathy at Kirksville, Mo., to the end that his diploma therefrom may entitle him to a certificate from the said defendant, to practice his calling in this state.

The defendant, on Oct. 8, 1898, filed its answer in two paragraphs, to the foregoing petition.

In the first paragraph the defendant traverses the material allegations of the petition; and denies that the American School of Osteopathy at Kirksville, Mo., is a reputable and legally chartered medical college; denies that it has a large and learned body of professors; denies that the pupils are instructed or taught in any branch or branches of learning or science, proper and necessary for the education of physicians or surgeons, or proper or necessary for the training or preparation of students for the practice of medicine or surgery; denies that

its professors, or any of them, are capable of teaching any branch of science, or the principles of any branch of science or learning proper and necessary to be taught to students studying medicine or surgery; denies that the said school is entitled to the indorsement or recognition of the said State Board of Health, defendant herein.

In the second paragraph of its answer, the defendant alleges that the plaintiff, Harry Nelson, has not the education nor training legally requisite in this state for the practice of medicine or surgery or any healing art or system of healing known to the medical or scientific world; and states that the plaintiff is neither competent, fitted nor qualified by education or training to practice medicine or surgery or any known system of healing in this or any other state; that in the month of June, 1898, the defendant duly notified the plaintiff to appear before it and be examined as to his competency, fitness and qualification to practice medicine or surgery or any healing art, in order, if it were ascertained that he was so qualified, that it, the said Board of Health, might issue to him a license so to do, but that the plaintiff refused and still refuses to appear before the said Board to be examined by it as to his qualification, fitness and competency to practice medicine or surgery, or any healing art, or to treat any sick or afflicted person or persons by any system or method of healing whatsoever.

OSTEOPATHY A SYSTEM OF CHARLATANISM.

The defendant further alleges that the said American School of Osteopathy at Kirksville, Mo., and the system or method of healing which it proposes or attempts to teach or does teach, is not scientific nor based on scientific principles of medicine or surgery, or any other plan or method of healing the sick or those suffering from any of the ills that flesh is heir to, but that on the contrary, the said doctrines, methods and principles for treating sick and afflicted persons inculcated, taught and practiced at the said "American School of Osteopathy" are a complete system of charlatanism, empiricism and quackery calculated and designed to impose on the credulous, superstitious and ignorant, and fraught with danger to the health, limbs and lives of the citizens.

PROFESSORS NOT COMPETENT TO TEACH.

The defendant further states that the said so-called professors constituting the faculty of the said school are not competent to teach, and do not teach, any of the sciences or studies essential to the education of physicians or surgeons, and that the said school itself is wholly unfitted and unprepared in the necessary equipment and facilities for instruction, for the preparation and education of persons for the practice of medicine or surgery or any healing art, and that the said studies taught, and the practices followed in said school are wholly insufficient for the preparation of persons other than as quacks, empirics, and charlatans, for the suppression and prevention of which the very statute referred to in the plaintiff's petition, and charged by him to be unconstitutional, was made and provided. The defendant states that the seven members constituting the said Board of Health under the statutes of this state are sworn officers of the law, and as such their only desire and purpose have been and are to fulfil the duties imposed on them as members of the said State Board of Health by the Commonwealth of Kentucky, for the protection of the health, limbs and lives and welfare of the citizens of this state; and that all that it, the said Board of Health, has done, is doing or contemplates doing, is with the sole desire and for the sole purpose of carrying into effect the letter, spirit and intent of the statutes made and provided by the legislature of this commonwealth, for the protection of its citizens against empiricism, charlatanry and quackery; and the defendant further avers that to permit the plaintiff, unprepared, incompetent and unqualified as he is, or any of his associates in the said so-called school of osteopathy similiarly unqualified, incompetent and unfitted, to practice or to attempt to practice medicine or surgery or any of the arts of healing in this state, would be to endanger and to sacrifice the health, limbs and lives of the citizens of this commonwealth. The foregoing is the answer of the defendant to the plaintiff's petition.

On Nov. 12, 1898, the plaintiff filed his reply to the defendant's answer, traversing all of the affirmative allegations therein contained, except the averment that he had received notice from the defendant to appear before it and submit to an examination. This averment in the answer, the plaintiff admits in his reply to be true, and alleges that there is no law requiring him to submit himself for examination before the said State Board of Health, which said Board of Health, the plaintiff, in his reply, characterizes as "A Self-Constituted Board or Court of Inquisition."

The foregoing petition, answer and reply, the substantial averments of which are above set forth, are all the pleadings in this case and present the only issues of the law and of fact for adjudication by this court.

The defendant, the State Board of Health, is established by Section 2047, Chapter 63, page 750, of the Kentucky Statutes. At present it is composed of seven members: Drs. Joseph M. Mathews, William Bailey, Arch Dixon, J. H. Samuel, George T. Fuller, J. H. Letcher, and J. N. McCormack, physicians and surgeons of learning, eminence and distinction in the sciences of medicine and surgery. The six of these were appointed by the governor, by and with the advice and consent of the Senate, and the seventh member, whom the statute provides shall be secretary of the board, Dr. J. N. McCormack of Bowling Green, was elected by the other six members.

By Section 2049 of the same chapter of the Kentucky Statutes, it is provided:

That the said State Board of Health shall have general supervision of the health of the citizens of this State.

By Section 2617, it is provided:

It shall be the duty of the state and local boards of health to bring to the attention of the Courts any violations of the provisions of this law within their respective jurisdictions.

In Sections 2049, 2050 and 2057, the powers and duties of the Board are defined.

By Section 2613, it is provided as follows:

Authority to practice medicine under this law shall be a certificate from the State Board of Health, and said Board shall upon application issue a certificate to any reputable physician who is practicing, or who desires to begin the practice of medicine in this State, who possesses any of the following qualifications:

1. A diploma from a reputable medical college legally chartered under the laws of this State.

2. A diploma from a reputable and legally chartered medical college of some other state or country, indorsed as such by the State Board of Health.

3. Satisfactory evidence from the person claiming the same that such person was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1864.

4. Satisfactory evidence from any person who was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1884, who has passed a satisfactory practical examination before said Board."

By Section 2612, it is provided as follows:

It shall be unlawful for any person to practice medicine in any of its branches within the limits of this State, who has not exhibited and registered in the County Clerk's Office of the county in which he resides his authority for so practicing medicine as herein prescribed, together with his age, address, place of birth, and the school or system of medicine to which he professes to belong; and the person so registering shall subscribe and verify by oath before such clerk, an affidavit containing such facts, which if willfully false, shall subject the affiant to conviction and punishment for perjury.

By Section 2616, it is provided as follows:

Nothing in this shall be so construed as to discriminate against any institution, school or system of medicine.

By the act of the General Assembly, approved March 18, 1898, it is provided as follows:

Any person living in this State, or any person coming into this State, who shall practice medicine or attempt to practice medicine in any of its branches, or who shall treat or attempt to treat any sick or afflicted person by any system or method whatsoever, for reward or recompensation, without first complying with the provisions of this law, shall upon conviction thereof, be fined fifty dollars, and upon each and every subsequent conviction shall be fined one hundred dollars and imprisoned thirty days, or either or both, in the discretion of the Court or jury trying the case; and in no case where any provision of this law has been violated shall the person so violating be entitled to receive any compensation for the services rendered. To open an office for such purpose, or to announce to the public in any way a readiness to treat the sick or afflicted shall be deemed to engage in the practice of medicine within the meaning of this act.

This last quoted act is the statute which the plaintiff denounces in his petition as being in violation of the bill of rights and unconstitutional and void.

It is a coincidence smacking of legislative irony, and not perhaps without significance, that following this, Article 1 of Chapter 85, of the Kentucky Statutes on medicine and surgery and empiricism, is Article 4, on "unclaimed dead bodies."

The first question to be determined by the Court is one of law, to-wit, whether the act of the legislature, approved March 18, 1898, above quoted, under which the defendant, the State Board of Health, was proceeding to have the plaintiff arrested and prosecuted is unconstitutional.

In the case of Dr. Joseph M. Mathews vs. the City of Louisville and the Commissioners of the Sinking Fund of the City of Louisville, No. 10,180 in the Law and Equity Division of the Jefferson Circuit Court, in an opinion by the Court handed down Jan. 2, 1897, it is said:

The State of Kentucky in the exercise of its police power undoubtedly has the right, for the preservation of the health, safety and lives of the people—which is certainly one of the [illegible] of government—to regulate the practice of medicine, and [illegible] by general laws applicable to all who engage in it [illegible] to require of those who desire to practice [illegible] with certain statutory requirements [illegible] engaging in the practice of said profession.

This police power in the State is as unquestionable as is its lawful authority to adopt measures tending to suppress the sources of disease, to avert the spreading of contagion, to prevent the adulteration of provisions, and to legislate in all directions for the promotion of public morals, the suppression of vice, and for the protection of the public health. For this purpose, and to protect the public from the imposture and fraud of quacks and charlatans, the General Statutes of this state wisely require certain evidences of fitness and competency from those offering to practice mdicine and surgery, in the shape of diplomas from reputable medical colleges and a certificate from the State Board of Health appointed by law. (See Sections 2611, 2612, 2613, pages 919 and 920, General Statutes of Kentucky.)

Such requirements of the statute can not be considered a discrimination against one class of citizens, or an unequal or unjust impediment or burden imposed on those offering to follow the profession of medicine and surgery in this state.

They are simply reasonable restrictions and regulations which the state has the undoubted right to adopt for the protection of the health, lives, limbs and safety of the citizens of this commonwealth. The State of Kentucky, as a branch of its sovereignty, has the indisputable right, in the exercise of its police power, to place such restrictions and conditions upon those offering to practice medicine and surgery within the commonwealth, and has equally the constitutional right of delegating to a municipality the same power.

In the case of Dent vs. State of West Virginia, decided by the Supreme Court of the United States, Jan. 14, 1898, Mr. Justice Field, speaking for the unanimous court said:

Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the property of vegetable and mineral substances, but of the human body in all of its complicated parts and their relations to each other, as well as their influence upon the mind. The physicians must be able to detect readily the presence of disease and prescribe medicine for its removal. Every one may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses.

Reliance must be placed upon the assurance given by his license that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the state to exclude from practice those who have not such a license or who are found upon examination not to be fully qualified. The same reasons which control, in imposing conditions, upon compliance with which the physician is allowed to practice in the first instance, may call for further conditions as new modes of treating diseases are discovered, or a more thorough acquaintance obtained with the remedial properties of vegetable and mineral substances, or a more accurate knowledge is acquired of the human system and of the agencies by which it is affected. No one has the right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, shall present evidence of it by a certificate or license by a body designated by the state as competent to judge of his qualifications.

Not only has the Supreme Court of the United States expressly upheld such state statutes as the one under consideration for the protection of the health, limbs and lives of the citizens, but in almost every state in the Union the constitutionality of such legislative acts has been upheld by the state courts of last resort, save and except in the case of the State vs. Rennoyer, reported in the 18 Atlantic Reporter, 873, in which the Supreme Court of New Hampshire held that an act of the legislature requiring similar conditions in order to obtain a license to practice medicine in that state was unconstitutional.

In Driscoll vs. Commonwealth, 93 Kentucky, 394, and in Hargan vs. Purdy, 93 Kentucky, 424, it was held that the legislature of Kentucky has the constitutional authority to enact a law requiring those who undertake to practice medicine or surgery to give evidence of their fitness by procuring a license from those who, in the legislative judgment, are competent to determine whether the applicant possesses the necessary qualifications.

In view of the overwhelming weight of authority in both the state and federal courts in support of the constitutionality of such state statutes it is hardly conceivable that their constitutionality will ever again be questioned in the courts of this state.

The constitutional validity of the act complained of being indisputable, what are the other issues to be tried in this case? It is not alleged that the plaintiff had or has a diploma from a medical college duly chartered under the laws of this sister state; nor is it alleged or claimed that the plaintiff was engaged in the practice of his profession in this state prior to Feb. 23, 1864, or prior to Feb. 23, 1884; hence it must be admitted that he does not possess the first, third or fourth qualification named in Section 2613 of the Kentucky Statutes, above named.

It is an admitted fact that the plaintiff had and has a diploma from the American School of Osteopathy at Kirksville, Mo., and that the said school or college is legally chartered under the laws of that state.

The only question, therefore, for decision, is whether or not the plaintiff possesses the second qualification named in Section 2613 *supra*, to-wit, whether he "possesses a diploma from a *reputable* and legally chartered *medical* college of some other state?" Admitting that he has a diploma from the "American School of Osteopathy" at Kirksville, Mo., and that said school is a college legally chartered under the laws of that state, within the meaning of the statute, the question is whether the said school is a *reputable medical* college? If it is a reputable medical college, as the plaintiff holds a diploma from it, it was the duty of the defendant, the State Board of Health, under the statute, Section 2613, SubSection 2, of the Kentucky Statutes quoted *supra*, to indorse it as such, and thereby authorize the plaintiff to practice his profession in this state: But if the said school is not a reputable medical college, then the defendant, the State Board of Health, was right in refusing to indorse it as such, and in refusing to recognize the plaintiff's diploma therefrom, and is simply performing its duty under Section 2617 of the Kentucky Statutes in having the plaintiff arrested and prosecuted under the act of March 18, 1898, quoted *supra*. The first question for decision therefore is, whether the said American School of Osteopathy at Kirksville, Mo., is a reputable medical college? The word "reputable," as used in the statute when applied to a college, has a different meaning from what it has when applied to an individual. When applied to an individual the adjective "reputable" has reference to his moral character and to his character or reputation as an honorable or dishonorable man, i. e., whether he is a person of integrity and good character; but when applied to a college it has reference to the extent of its courses and study, that is to the period of study required for graduation, and to the thoroughness of the education required at such college, and to the thoroughness of the course or courses of science prescribed and taught in said college, and to the capacity and qualifications of the teachers as educators therein, and to the standard of scholarship and proficiency in said sciences required of the students, as condition precedent to the issuing of diplomas to them as graduates thereof.

In the case of William Barmore vs. The State Board of Medical Examiners, decision by the Supreme Court of Oregon, Chief Justice Strahan, in interpreting the words "good standing," occurring in a statute of Oregon which required of physicians applying to practice medicine in that state, a diploma from "medical institutions of good standing," used the following language:

As a part of the current history of the times and as an aid in arriving at the legislative opinion when there were different kinds of colleges authorized by the laws of the states in which they were located, in which there were pretended annually to be delivered full courses of lectures and instruction upon the arts and sciences professed to be taught that were not reputable, because they graduated students for money frequently without regard for scholarship, a diploma from such an institution afforded no evidence of scholarship or attainments in its holder. It was a fraud and deserved no respect from anybody, and it was against such diplomas the law was intended to protect the public, and therefore required the colleges to be *reputable*. Whether a college be reputable or not, is not a legal question, but a matter of fact. So also are the requirements in regard to the annual delivery of full courses of lectures and instruction. These questions of fact are by the Act submitted to the decision of the Board, not in so many words, but by the plainest and most necessary implication. Their action is to be predicated upon the existence of the requisite facts, and no other tribunal is authorized to investigate that, and if necessary, therefore, they must do so.

The word *reputable* in the statute of Kentucky as applied to a college, as synonymous with the phrase " of good standing" in the statutes of other states. The foregoing meaning of the words, "of good standing," as synonymous with "reputable," was based by Chief Justice Strahan upon the case of "The People vs. State Board of Medical Examiners, 110 Illinois, 180, where the word "reputable" appears in the statute of Illinois instead of the words "good standing," as in the statute of Oregon. When applied to colleges or institutions professing to teach any of the sciences, they mean the same thing. Such is in harmony with the manifest purpose of the statute.

To the same effect is the decision of the Supreme Court of Iowa, rendered in May, 1893, in the case known as "The Eclectic College Case." Said Given, J., in that case, in interpreting the meaning of the statutory phrase "of good standing" as applied to a college in that state:

The standing of the college as contemplated by this statute is rather what the college is in respect to the thoroughness of its courses than what it is reported to be. . . . The standing of the college was a matter within the jurisdiction of the defendant Board of Medical Examiners to determine; and on Nov. 21, 1890, after a full and fair examination, it determined that said college (referring to the Eclectic Medical College) was not in good standing, because its teachings were not up to the minimum requirements.

He further said:

It is clear that the defendant Board of Medical Examiners did have the power by proper investigation to determine the identity of applicants and the genuineness of their diplomas and whether said diplomas were issued by a medical school legally organized and in good standing.

In the case of the People ex. rel. Isaac N. Sheppard vs. The State Board of Dental Examiners, decided by the Supreme Court of Illinois in May, 1884, it was said:

Whether a dental college is "reputable" or not, within the ordinary meaning of that word, is not a legal question but a question of fact. This question is by the act submitted to the decision of the State Board of Dental Examiners. Their action is to be predicated upon the requisite facts, and no other tribunal is authorized to investigate them. The act of ascertaining and determining what are the facts is in its nature judicial, involving investigation, judgment and discretion.

Continuing, the Court said:

The office of a writ of mandamus is to enjoin and to compel the performance of mere ministerial acts prescribed by law. It lies, however, also to subordinate judicial tribunals to compel them to act where it is their duty to act, but never to require them to decide in a particular manner. It is not like a writ of error or appeal, a remedy for erroneous decisions. A subordinate body can be directed by the writ to act, but not how to act in a matter as to which it has the right to exercise its judgment. The character of the duty, and not that of the body of the officers, determines how far the performance may be enforced by mandamus. So upon the refusal of the Illinois State Board of Dental Examiners to grant a license to a person whose application was based upon a diploma issued by a dental college, mandamus will not lie to compel the Board to grant the license, because to entitle the applicant to a license the diploma must have been issued by a reputable dental college, and whether the college is a "reputable" one, is, under the statute, within the judgment and discretion of the Board to determine. The petition for a writ of mandamus to compel the Board to issue a certificate to the petitioner is therefore denied.

So also the case of People, for the use of the State Board of Health, vs. "Blue Mountain Joe," decided by the Supreme Court of Illinois in June, 1899, opinion by Mr. Justice Swope.

What tribunal did the Legislature of Kentucky intend should determine whether or not the medical college in another state, from which an applicant coming into this state to practice medicine or surgery with a diploma therefrom, is or is not a reputable college? It is perfectly obvious that the legislature intended that this question should be determined by the State Board of Health, and that the fitness and educational qualification of such applicant, whether evidenced by such a diploma or by an examination of the applicant, should be determined by the members of the said Board of Health, and by no other tribunal. It is absurd to suppose that the legislature intended that this question should be determined by a judge or jury on appeal from the decision of the said Board. In the legislative judgment of Kentucky as declared in the statutes above quoted, the State Board of Health is alone authorized and empowered to decide this question, if not expressly by necessary legal implication. Such is in consonance with the philosophy, the policy, the spirit and the letter of the statute.

KIRKSVILLE SCHOOL INVESTIGATED.

The proof clearly demonstrated that the defendant, the State Board of Health, fairly and fully investigated the American School of Osteopathy at Kirksville, Mo. It sent a committee of three reputable physicians in the state to that institution, Drs. J. M. Bodine, George W. Griffith and H. A. Cottrell, to examine into its equipment, apparatus and facilities for teaching, and to see the professors and ascertain whether they were ignorant pretenders or self-conceived visionaries or competent educators.

Dr. McCormack, the secretary of the Board, a physician and surgeon of high character and distinction in this state, also visited Kirksville, Mo., and examined the American School of Osteopathy, and his testimony is in the record.

The proof shows that the said investigation and examination by the said Board through its said committee and by Dr. McCormack, to determine whether the said American School of Osteopathy was a reputable medical college within the statutory meaning of the term as above set forth, were conducted openly and fairly and not arbitrarily and capriciously; that the said Board, after a full and complete and exhaustive investigation, determined that the American School of Osteopathy at Kirksville, Mo., from which the plaintiff holds a diploma, was *not* a *reputable medical* college, and that decision was based on a full and thorough inquiry into the facts and did not emanate from, nor was it influenced by, any prejudice or hostility on the part of the said State Board of Health to osteopathy or its teachers. It is vain to say that such a decision by the Board was a discrimination against the American School of Osteopathy as a peculiar school or system of medicine within the meaning and in violation of the provisions of Section 2616 of the Kentucky Statutes, quoted *supra*. It is my opinion that the action of the State Board of Health in determining that the American School of Osteopathy was not a reputable medical college, and that the diploma from it held by the plaintiff was entitled to no respect, is final and conclusive; and in the absence of an allegation and proof of fraud or gross violation of the duty equivalent to fraud, or abuse of discretion, and none such is or can be pretended or claimed, is not appealable to nor revisable by the courts.

However, waiving this point, which would end the case here, and looking into the voluminous testimony contained in the record for proof to sustain the plaintiff's allegation, that the decision of the defendant in refusing to recognize the American School of Osteopathy as a reputable medical college and refusing to indorse the plaintiff's diploma was contrary to the facts, what do we find?

A "STILL" SCHOOL.

The plaintiff files with his petition a catalogue of the American School of Osteopathy, and those expert witnesses for plaintiff, and professors in said school who have testified in this case refer to said catalogue and make it a part of their testimony as illustrative and explicative of the character of said college, and the "science of osteopathy" as taught therein. From this catalogue it appears that the Board of Trustees of the said school consists of the following five persons, to-wit: A. T. Still, who "discovered Osteopathy" in 1892; C. E. Still, H. T. Still and H. M. Still, his three sons, and Miss Blanche, his daughter. They are the incorporators of the said corporation, under the corporate name, "The American School of Osteopathy." The officers of the Board of Trustees are the following: A. T. Still, president; C. E. Still, vice-president; H. M. Still, vice-president, and A. G. Hildreth, secretary.

The catalogue contains the charter of the said school, granted by the legislature of the State of Missouri, which reads as follows:

Article 1.—The name and style of this corporation shall be THE AMERICAN SCHOOL OF OSTEOPATHY, and shall be located in the city of Kirksville, in the county of Adair, and State of Missouri.

Article 2.—The officers of this corporation shall be a president and such other officers as the trustees shall from time to time deem necessary, and appoint.

Article 3.—The object of this corporation is to establish a college of osteopathy, the design of which is to improve our present system of surgery, obstetrics and treatment of diseases generally, and place the same on a more rational and scientific basis, and to impart information to the medical profession, and to grant and confer such honors and degrees as are usually granted and conferred by reputable medical colleges; to issue diplomas in testimony of the same to all students graduating from said school, under the seal of the corporation, with the signature of each member of the faculty and of the president of the college.

Article 4.—That the corporate powers of said college shall be vested in a board of trustees, to consist of a number not less than five nor more than thirteen, and that the president of the board shall be ex-officio president of the college; which board shall have perpetual succession, with powers from time to time to fill all vacancies in their body, and that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall be the first members of said board, and shall have power to increase their number as hereinbefore specified.

Article 5.—That said board of trustees and their successors, for a period of fifty years, shall have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy; to fill vacancies in the faculty, to remove the same, to declare the tenures and duties of all officers and teachers, and fix their compensation therefor; to provide a suitable building and furnish the same, and to fix the amount of tuition to be charged students, the number and length of terms students shall attend such college before graduating, the qualifications necessary to admit students into such college; to grant diplomas to all graduates who shall have passed an examination satisfactory to the board of trustees and faculty, in each and every branch required to be taught and studied in the curriculum of said college; and to make all by-laws necessary for carrying into effect the objects of this corporation not inconsistent with the laws of the State of Missouri and the Constitution thereof.

The school is made a corporation, and the officers of the corporation by its charter are only such as the said board of trustees—*composed exclusively of the Still family*—shall from time to time deem necessary and appoint. The corporate powers of the institution under Article 4, are vested in this board of trustees—composed exclusively of the Still family—which is endowed with perpetual succession and with the power to fill vacancies that shall occur in that body, and it is expressly stated in the said charter that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall constitute said board, and shall have the power to increase their numbers as hereinbefore specified. This board, thus composed of the Still family, and such successors as the Stills shall nominate by Article 5 of the said charter, shall for a period of fifty years have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy, and to remove members of said faculty and to fill vacancies in the faculty thus occasioned, and to declare the duties of all the officers and teachers and fix their compensation; thus establishing an absolute despotism by the Stills over all the officers and members of the faculty of the said institution.

Referring to this charter as a production of said Dr. A. T. Still, the president, at page 6 of said catalogue, the following language appears:

In this way has the keen insight of Dr. A. T. Still into the future possibilities of osteopathy, and his entire and unreserved devotion to the interest of this child of his brain been [illegible] form, and provision made for the [illegible] the science on a basis at once broad, liberal and [illegible]

Thus it will be seen that the charter establishes a corporate Still syndicate, a *Still* trust in osteopathy, at Kirksville, Mo.

On page 7 of said catalogue appears what is called an *explanation* of osteopathy in the following language:

In the minds of many to whose notice this catalogue may come, will arise questions concerning the nature of osteopathy. Hence it is opportune to here make some explanation of the science.

In the outset be it understood that osteopathy differs radically and entirely from all schools of medicine. Its point of view in regarding disease, and its method of treating the disease have nothing in common with the methods employed in medicine. For example: A man calls upon a physician and states that he is suffering from bowel trouble; the doctor diagnoses it as a case of diarrhea in which the disordered nervous mechanism of the bowel causes a too profuse outpouring of fluid secretions; he prescribes a remedy containing some astringent as, for instance, sulphuric acid; this causes a constriction of the vessels and of the canal, and a diminution of the symptoms.

On the other hand, the osteopath, who has also diagnosed the disease primarily as above, gives no astringent, but goes to the nerves supplying the intestinal canal, the pneumogastric, the splanchnics, and the lower spinal sympathetics, by osteopathic manipulation he removes any irritation to these nerves which may be causing them to act unnaturally; he thus quiets the nervous mechanism which rules the function of the bowel, the unnatural secretion ceases and the patient loses his symptoms.

The doctor, true to the theorems of Hippocrates, has combatted the symptoms, has killed for the time being, the irritated and complaining nerve by the use of a poison, sulphuric acid; has thus caused the symptom to disappear, at least temporarily, and has rendered the probability of its return contingent upon the ability of the patient's system to recover from the original cause of the disease before the poisoned nerve awakes from its dangerous sleep. If the system accomplishes this feat the diarrhea has been "cured." The doctor gracefully acknowledges that he has not performed the cure. Oh, no, he has merely aided Nature. Poor Nature, how beautiful to contemplate this negative aid thus afforded. Mother Nature, how long will you be able to stand up with such aid, and how long can your poor aching member, the troubled nerve, withstand the effects of the poisonous draught. After sufficiently vigorous and prolonged poisoning, will not the faithful nerve complaining, and thus giving warning to the system that cause of irritation exists somewhere, be smitten down at the post of duty by the ruthless destroyer who has come in the guise of friendship and philanthropy?

Had the physician not succeeded in abating the symptom by use of the remedy indicated, he would have tried something else.

The above statements and questions are equivalent to saying that the medical practitioner doctors symptoms, not first causes; that Nature, not the doctor, cures; that the aid afforded by medicine to the diseased system is but negative, that medicines are poison, destructive first of the part most directly afflicted and later to the system as a whole; finally, that the methods employed by the ordinary medical practitioner [illegible], as the frequent change of prescriptions in [illegible] quick changing popularity of different remedi[illegible] patent medicines, and the many hopeless chronic cases but too plainly indicate. Of these things, more presently. To revert to the original case, what has the osteopath done? He has gone to the original cause, has removed that which was hindering the nerve from performing its proper function, and causing it to act abnormally. "But," says the doctor, the original cause was an indiscretion in diet, and has passed away." The osteopath answers that the indiscretion was bad, but was really the occasion, and not the original cause, that while, in this case, such may have been the immediate cause, the original cause lay deeper in the nerves or centers controlling the bowel. We shall see later what the osteopath regards as causes affecting the nerves and centers, and why in treating diarrhea and many other cases, he goes to the origin of the nerve-supply, working along the spine principally, and upon nerve-centers and plexuses generally, to effect his cures.

Let us note in passing that the osteopath regarded the symptom merely as such, and allowed it to lead him to the original causes, that while he merely aided Nature, he did so in a positive, not negative manner, by directly treating the cause of irritation, as for example, when in such a case he treats by putting back into place a slipped, or twisted vertebra in the spinal column, that he has introduced into the system of the sufferer no foreign element, poisonous to its constitution, and destructive of its parts, that his method was not experimental, since he simply went to the affected part and by manipulation restored it to its proper position and condition; that his method was exact, and his procedure based upon an intimate knowledge of anatomy and physiology, and was therefore scientific; that his method restored parts to normal, and thus left no predisposition to the recurrence of the disease.

Sufficient has been said to show that osteopathy differs radically and entirely from schools of medicine, both in its point of view and in its method of treatment.

The fact that osteopathy has been remarkably successful in the treatment of diarrhea, dysentery, constipation and kindred complaints, both acute and chronic, will indicate to the thoughtful reader that there must be something in its method, and that there must be something the matter with medical treatment, else how does it come that so very many chronic diseases are left by medicine for the osteopath to cure? The failures of medicine have made osteopathy necessary. Dr. A. T. Still, the discoverer, resolved upon finding a new method of healing only after spinal meningitis had robbed him of several beloved children.

Osteopathy's place in the world, and its success in filling it, are sufficiently attested by the multitudes who seek its treatment. Failures of medicine make osteopathy a necessity, yet the doctors of medicine fight to death the advocates of this new science who dare to cross their paths; not at first, no, not until the newly arrived osteopath has demonstrated his power to save life and has incidentally lessened the doctor's income. Then human life becomes a bagatelle, osteopathy is a humbug, and must down.

Such is the lucid explanation of osteopathy presented in this catalogue issued by the American School of Osteopathy, at Kirksville, Mo.

The catalogue shows that there are fifteen professors in the faculty, of whom four are members of the Still family. All of the faculty have the letters D.O. after their names, which is presumed to mean "Doctor of Osteopathy," but only three of them have M.D. after their names, to-wit: William Smith, M.D., D.O., professor of anatomy, symptomatology, obstetrics and venereal diseases; C. P. McConnell, M.D., D.O., theory and practice of osteopathy and osteopathic diagnosis; J. B. Littlejohn, M.A., M.D., professor of histology and minor surgery.

The proof shows that the visiting committee from the State Board of Health found that the institution was destitute of the essential equipment, apparatus, appliances and facilities of a college for teaching medicine and surgery or any healing art. For instance, in the room of said institution for teaching anatomy the proof shows that plates were used with a mummyized cadaver which was kept constantly on hand, and which had been rendered so hard by the process of embalming that nothing but a cold-chisel could make an impression on it. A painted wooden Indian used for a cigar store sign would answer the purpose for demonstrating anatomy just as well.

ABOUT PROFESSOR WILLIAM SMITH, M.D., D.O.

Dr. William Smith, the professor of anatomy, the proof shows is the pride and flower of the faculty. He was born in Jamaica, and educated in Scotland. He visited many medical and surgical institutions in foreign countries, and after graduating abroad came to this country and entered upon the profession of a drummer. He testified that in his travels as a drummer he met Dr. A. T. Still, which resulted in his conversion from a drummer into a doctor of osteopathy. This Dr. Smith, the proof shows, is under several indictments in the City of Chicago for felonies; that he has also been indicted in Adair County, Missouri, in which county the American School of Osteopathy is located, for felony. The indictments are still pending against him. The proof shows that $500 reward was offered for him by the governor of Illinois, and he testifies that he procured the indictments against him in Missouri to prevent his being extradited and carried back to Chicago as a fugitive from justice.

On cross-examination the following questions were put to Dr. Smith:

Q.—You say you began the study of medicine in 1880 in the University of Edinburgh, Scotland, and attended college until in 1884; have you a diploma from that school?

A.—I have not for the reason that after having a difference of opinion with one of the professors I concluded to leave, was not requested or ordered, but did so of my own free will.

Q.—You say you went to Manchester and attended Victoria University (Owens College) until 1887; have you a diploma from this school?

INFECTED WITH SYPHILIS.

A.—My sole reason for going to Manchester was that in the latter part of 1884 I was infected with syphilis while working in the venereal wards of the Royal Infirmary. I only attended Owens College not to *waste* time, had no idea of graduating from the school, never even matriculated there, simply attended classes and read, and when my syphilis was over, returned to Edinburgh and began work on the subjects for final examination in the other school of medicine in that town.

Q.—What colleges did you attend subsequently and did you procure a diploma therefrom?

A.—I attended the Royal College of Physicians and Surgeons, at Edinburgh, and after examination by the examining boards of those colleges and the faculty of Physicians and Surgeons at Glasgow, was granted a diploma by the three boards, in January, 1888. I was living at home and did not care to remain home during the infective period of my syphilis and so lived in the other town (Manchester) for fear of inadvertently conveying the disease to any of my family.

Q.—Where is the diploma that you secured from the Royal College of Physicians and Surgeons and the other college spoken of?

A.—That diploma is in the possession of Messrs. Carroll, Turner and Kirwan, New Houseman Building, Grand Rapids, Mich., as one of the productions in a libel suit which I have instituted against Messrs. Parke Davis & Company, and William M. Warren, proprietors and publishers of a paper called the *Medical Age*, which stated that I was an unqualified man and a fraudulent character. The diploma was procured by me in order to secure permission to practice in this state, and my state certificate has been duly recorded in this town as required by the law of 1883.

Q.—You say, Doctor, that you became, while in Edinburgh, licentiate in midwifery; by whom was this degree conferred on you and when?

A.—By the same examining boards on the same date, the certificate being signed by the president and secretary of each of the colleges named; that certificate also is in Grand Rapids, Mich.

Q.—After receiving your certificate from the Royal College of Physicians and Surgeons, what course did you pursue toward entering into active practice of your profession?

A.—I went to Midcalder, twelve miles from Edinburgh, and *bought* practice of Dr. Walter Watson, paying him $2000. I practiced there for two years and nine months, worked so hard in building up the practice that I broke down my health; the practice had grown to such an extent that I sold it for $4000 and came to this country. I secured a position with Messrs. A. S. Aloe & Co., as traveling salesman, and while acting in this capacity, six weeks after entering into their employment, met Dr. Still in Kirksville, and at his request, after investigating his claims for his new work, decided to learn more of it, and so joined him in July, 1892.

Q.—Give the names of the faculty of the American School of Osteopathy in 1896, at the time or before Dr. Harry Nelson graduated.

A.—Dr. A. H. Sipay, Dr. Alice Patterson, C. E. Still, C. P. McConnell, A. T. Still, myself and Dr. S. S. Still; that was the faculty to the best of my knowledge and belief.

Q.—Doctor, I will ask you whether in January, 1898, in Cook

County, Illinois, you were not indicted for obtaining dead bodies contrary to the laws of Illinois, the offense said to have been committed on Oct. 24, 1897?

A.—I have no knowledge of said indictment, never having been served with same, but I have every reason to believe that your information is correct.

Q.—State whether or not at the 1897 term of the criminal term of the Cook County, Illinois, grand jury, in conjunction with Henry Ulrich and John Ludes, said to have been committed on Dec. 1, 1897, contrary to the laws of Illinois, you were indicted for burglary.

A.—Same answer as to the preceding question.

Q.—State whether or not you were indicted in December, 1897, criminal court of Cook County, Illinois, with Henry Ulrich and John Ludes for burglary, said to have been committed on Dec. 1, 1897?

A.—Same answer as question No. 30.

Q.—State whether or not you were indicted in the criminal court of Cook County, Illinois, January, 1898, with James Carter and Thomas Furey, for unlawfully and feloniously securing from one Joseph Raufcisen, certain personal property and money and conducting and running a confidence game, said to have been committed on Jan. 1, 1898.

A.—With regard to the first few charges as to the Chicago bodies, I have reason to believe that I was so indicted and will explain the circumstances connected with the same. This last charge is somewhat of a surprise, as I knew none of the gentlemen mentioned. For the guidance of the examining attorney, and to save his time, I may state that I have nothing to do with the assassination of President Lincoln, the blowing up of the *Maine*, a rape on the person of the president of the State Board of Health, or any other crime of which he or anybody else may have either heard or dreamed. With regard to Questions 30, 31 and 32, I file Exhibit 3 and beg to add that these indictments were simply an attempt at persecution by the president of the County Board of Cook County, whose irregularities had been exposed, and that the governor of this state, on presentation to him of the true facts in the case, stated to me personally that he not only would not honor the requisition, but would see that I was protected from any attempt to get me into Illinois to make me a scapegoat for the offenses of another man. The result of the matter has been that the president of the County Board lost his position, did not receive the nomination for sheriff for which he was working, and I have received offers of absolute protection if I will go to Illinois and expose in full the plot against me. I require bodies for dissection and procure them exactly as does every other demonstrator of anatomy.

Q.—Doctor, is it not a fact that these indictments are all pending in Cook County, Illinois, and have never been dismissed?

A.—I do not know, and I do not care.

Q.—Were you not indicted in Adair, that is your own county, Adair County, Missouri, for perjury, and is it not a fact that this indictment is still pending?

A.—Certainly not.

Q.—Is there any indictment pending in this county, if so for what crime, and when is it said to have been committed?

Objected to.

A.—Certainly not.

Q.—Did you not tell Dr. McCormack and myself, as we were leaving the building this morning, that you had an indictment preferred against you through the assistance and collusion of a student of this college?

A.—I did. That indictment was preferred against me at the time when the second requisition was presented to Governor Stephens. I was afraid the governor might weaken and allow me to be taken. I wished to hold myself in Missouri until I could present to him further evidence, if it were necessary to do so. Governor Stephens' standing to his guns made any following up of the matter unnecessary, and of course, there was no prosecution. I am perfectly willing that any reputable citizen in this town be asked for his opinion of my personal character and reputation during the two years and a half during which I have been constantly under public observation.

Q.—What other schools of osteopathy are located in this town other than the American School of Osteopathy?

A.—A man named R. M. Brashear possessed some farm land on the outskirts of town; he desired to sell building lots, and so induced an osteopath to join with him in founding the great "Columbian School of Osteopathy," medicine and surgery. Its students are mainly derived from those who can not pass the entrance examination of this school, as they are taken in there without any qualification. Also those who are devoid of funds, as in order to get students they have been taking them without money and without price. The institution has been in existence rather less than twelve months, and my opinion is it will be for sale in less than three more.

Q.—Who is this osteopath that is assisting this farmer in disposing of his land in building lots?

A.—M. L. Ward. A man who has buncoed Dr. A. T. Still into believing him a man of good reputation, and who, I am informed, was turned out of this institution for financial irregularity. He held the position of vice-president under the first charter of this school for eight months.

Q.—Is it not a matter of fact that the American School of Osteopathy and the Columbian school have runners out on the street at the depots and in the hotels, with the names of the institutions tied acros their hats, ready to guide patients to their respective infirmaries?

A.—I direct attention to the page immediately preceding the frontispiece of Exhibit 2, to the mark "W. S."

Q.—I will ask you the full name of the author of the book known as "Osteopathy Complete," which upon direct examination you stated was not considered a standard text-book, and whose name I believe you stated was Barber?

A.—His full name is Elmer D. Barber. The book is not recognized, for the reason that osteopathy can not be acquired from a book. It is possible that much in that book may be correct, but I know nothing about it.

Q.—Is it not a fact that Elmer D. Barber is a graduate of the American School of Osteopathy, graduating therefrom in 1885?

A.—I believe that that is correct.

Q.—On direct examination you stated that you attempted to suppress the school conducted by E. D. Barber at Kansas City, Mo., by representing yourself to him under an assumed name?

A.—I introduced myself as a Dr. Stuart, told him fairy tales, told him straight out that I wanted to buy a diploma and se cured it.

Dr. Smith testifies further that osteopathy and osteopathic treatment "depend essentially upon manipulation directed toward improving the circulation and the correction of structural abnormalities; that the main feature of osteopathic treatment "is the direct stimulation or inhibition of nervous impulse." . . . that he "has seen hundreds of cases stated by physicians of the regular schools to be incurable cured by osteopathic treatment," and emphasizes one particular case, of a student, who, according to his testimony was then in the American School of Osteopathy, whose case was sworn to by six of the best surgeons in Memphis, Tenn., as being incurable, they swearing, he says, that the said patient would never be able to walk again. "That man," he testifies, "now walks where he likes without crutches and with no abnormality in gait." It may be remarked in passing that the name of this patient is not given nor is his testimony taken in this case.

TEACHERS ALL PROFOUNDLY LEARNED.

Dr. Smith also testifies that all of the professors in the American School of Osteopathy are men of profound learning, skill and honor; that the term of study at college is twenty months, that the tuition is $500 each, and that there are over five hundred and fifty students at said institution, . . . that the *A. T. Still Infirmary* is a separate, private corporation, closely connected with but separate from the American School of Osteopathy at Kirksville, where patients are treated by the students of the American School of Osteopathy under the operators of the *A. T. Still Infirmary*, and that in said infirmary there are from three to five hundred patients; that A. T. Still has very little to do with the management of the school, but that the financial affairs of the said institution are left in the hands of the trustees of the said American School of Osteopathy, composed, as we have seen, of A. T. Still and his sons and daughter, and that they meet monthly. Dr. Smith further testifies that the plaintiff in this case, Dr. Nelson, graduated at the American School of Osteopathy at a time when there were only about fifty students at said institution, and when surgery was not taught when chemistry was limited to uranalysis; and that histology was then taught by the stereopticon, and at that time there was no microscopic department in said institution, nor was public health, psychology or medical jurisprudence taught therein. Yet he testifies as follows: "A man could get, with the limited means at our disposal as good an osteopathic education at *that time* as he can *now*."

Prof. J. M. Littlejohn testifies that he is dean of the faculty of the American School of Osteopathy; that he has charge of the department of physiology and psychology, and that he is not a graduate of any school of medicine. He further testifies that he knows of no cure from personal experience of any case that has been pronounced incurable which was subsequently cured by osteopathy. This does not harmonize with Dr. Smith's testimony as to the five hundred remarkable cures.

Prof. C. P. McConnell testifies that osteopathy is based upon manipulation, and that manipulation is the main osteopathic treatment given to the afflicted and sick.

These different professors in the American School of Osteopathy each and every one of them reciprocally testify to the learning, skill, enterprise and honor of each other, and they make no exception of Professor Smith. They all testify that they are believers in the science of osteopathy.

Professor McConnell further testifies that the methods practiced by Dr. Nelson, the plaintiff in this action, represent the true fundamental principles of osteopathy. He testifies that he knows the etiology and pathology of measles, scarlet fever, diphtheria, and all the catalogue of diseases mentioned, and that the osteopathic treatment of all of said diseases is manipulation, but he positively refuses to tell how the manipulation is applied in any case. He says that Dr. Barber, the president of a school of osteopathy at Kansas City, Mo., graduated at the American School of Osteopathy and holds a diploma from that institution, "that Dr. Barber's osteopathic character is that of an outcast."

It appears in proof that the chair of medical jurisprudence was established in 1898 in the American School of Osteopathy, and that this chair is filled by Judge Andrew Ellison, who had for many years been judge of that circuit in Missouri. In answer to Question 27, on direct examination the judge testifies that he could not from a scientific standpoint tell what is meant by the science of osteopathy, as it is taught by Prof. A. T. Still, nor what its fundamental principles are. The judge strongly disagrees with Professor Smith, Professor McConnell and others of the faculty who have testified in this case for the plaintiff, when he says in answer to direct Question 28, whether osteopathy as practiced by Dr. Still [illegible]

employed to heal the sick by manipulation. I would say most assuredly and emphatically not." He also disagrees with Professor Littlejohn upon this subject and with Dr. Nelson, the plaintiff. In answer to Question 29, the judge says that at first seeing the cures in the institution he thought it was a *special gift of Dr. Still*, but seeing convinced him that it was not only curative but thoroughly scientific. Yet the judge says he knows nothing about its principles nor what osteopathy is from a scientific standpoint. *Quo magis nesciunt eo magis admirantur.*

The judge says he is a friend of the American School of Osteopathy, and of the citizens of Kirksville, who have been so much benefited by the location of that school in their town. He further testifies that he had delivered an address to the graduates of the school, and that he went down to the capital of the state, along with other good citizens and helped to get a bill through the legislature chartering the institution, and in January, 1899, he became the attorney for the institution.

Dr. Arthur G. Hildreth, a witness for the plaintiff, testifies that he is an osteopath and a graduate of the American School of Osteopathy at Kirksville, Mo., and that he knows Dr. Nelson . . . that the basis of osteopathy is manipulation. . . . that diphtheria is treated by manipulation from an osteopathic standpoint . . . that he knows nothing of antitoxin or the treatment of diphtheria with antitoxin . . . that he treats cerebrospinal meningitis by manipulation and that he treats acute inflammatory rheumatism of the knee-joint, peritonitis and appendicitis by manipulation.

OSTEOPATHY CURES EVERYTHING BUT CANCER, SYPHILIS AND CONSUMPTION.

The plaintiff, Dr. Nelson, testifies that osteopathy cures all diseases except cancer, syphilis and consumption; that he treats Bright's disease and diabetes by manipulation, stimulating the "renic splanchnic;" that he treats diphtheria by manipulation, stimulating the vasomoter center in the back of the neck, and by putting the finger down the throat of a patient and manipulating the soft palate or fauces; that the treatment of scarlet fever, lockjaw, milk leg, varicose veins, dropsy, retention of the urine, piles, fistula in the rectum, anal fissure, acute rheumatism, hip-joint disease, simple, benignant and malignant tumors, chronic syphilis, eczema, shingles, carbuncles, bones, felons, bruises, puerperal convulsions, flooding after child-birth, laceration of the cornea of the eye, *all* by manipulation, but he refuses to state how or in what manner this manipulation is applied.

The other expert osteopaths, witnesses for the plaintiff, explain the method of manipulation by excitation of the vasomotor center in many diseases, but for the most part, in reference to all the maladies in the catalogue of diseases propounded to them in the interrogatories, they say they treat by manipulation, but they refuse to tell how they exert or apply said treatment.

All the expert witnesses for plaintiff, including the professors of the American School of Osteopathy who have been examined, testify that *manipulation* and not medicine or surgery constitutes the science of osteopathy. And here it is worthy of note that none of the Still family, the discoverer of osteopathy, and his sons and daughter, who constitute the board of trustees of the American School of Osteopathy, have testified in this case.

The evidence of all the witnesses for plaintiff conclusively establishes the fact that osteopathy is simply treatment of diseases by manipulation, and that doctors of osteopathy are simply masseurs, that is manipulators. Nor can it be disputed that in many nervous diseases massage treatment is beneficial.

Plaintiff has introduced several witnesses, not experts, who have received this massage treatment called osteopathy, among them the Hon. Frank Parsons, who was treated by him for waxen kernels in the throat. He testifies that the plaintiff manipulated the kernels in his throat with his thumbs and fingers around and about his face and neck and did him much good. So Mrs. Samantha Field was treated by the plaintiff for neuralgia, and she thinks Dr. Nelson has cured her. Mrs. Fannie McKay Perry was treated by plaintiff by manipulation for liver and stomach trouble, and for tonsillitis, and she says he cured her. Mrs. Perry further testifies that the plaintiff cured her little daughter of malarial fever and her aged mother of rheumatism, by manipulation. She says there was no medicine given and no surgery practiced by him. Mr. Price and Mr. Longest, witnesses for plaintiff, both of whom were suffering from nervous troubles, testify that they were treated by Dr. Nelson by manipulation and were greatly benefited. Mr. Price testifies that he had tried "Christian Science" and faith cure, and that the massage treatment of plaintiff did him more good than either of the other treatments.

It appears in evidence that when the plaintiff, Dr. Nelson, took his osteopathic course and graduated at the American School of Osteopathy, the only graduate of medicine in the faculty was Professor Smith, whose testimony has been referred to *supra*. At that time physiology and pathology were taught in said school only with charts and manikins. Neither clinics nor surgery were taught at that time in said institution.

The foregoing are all the witnesses who have testified in this case for the plaintiff.

WHAT OSTEOPATHY REALLY IS.

The first witness for the defendant is Dr. Arthur T. McCormack, inspector for the State Board of Health, an educated physician. He testified that he has visited and examined all of the principal medical colleges and hospitals in the United States, and that he visited the American School of Osteopathy at Kirksville, Mo., for the purpose of ascertaining the true character of that institution as a school of medicine and surgery. He testifies that when he visited that institution Dr. Smith was professor of anatomy, and demonstrator of surgery, and that he taught and demonstrated those sciences by throwing pictures of the parts of the human body, by means of an acetylene gas lantern, on a screen, and that they had only one cadaver, which was by the embalming process rendered so hard that it was useless for anatomic analysis, and that the only way of making an impression upon it was with a cold-chisel. He testifies that the tables and plates and apparatus and appliances of every kind in the histologic department showed that histology was not taught in said institution, but that it was only a false pretense—the claim that they taught it, that the facilities and equipment of said institution were wholly inadequate for the purpose of teaching medicine and surgery, and were a mere makeshift.

PRESIDENT MATHEWS UNDERSTANDS OSTEOPATHY.

Dr. J. M. Mathews, a practicing surgeon in this city for seventeeen years, professor of surgery in the Kentucky School of Medicine, and president of the AMERICAN MEDICAL ASSOCIATION, and president of the State Board of Health, testified that he understands the theory and practice of osteopathy, and that osteopathy is not a system for curing diseases, and is to be feared for dangerous results which would naturally be caused thereby. He heard the plaintiff, Dr. Nelson, testify in this case as to the proper mode of treating diseases osteopathically; that the osteopathic treatment of diphtheria as testified to by the plaintiff, Dr. Nelson, could not possibly do any good, and would kill a majority of the patients receiving it. He testifies that it is impossible to detect albumin in the urine by the sense of smell, as Dr. Nelson states in his testimony is the way he discovers it. Dr. Mathews further states that manipulation of the body, intead of being a cure for Bright's disease and diabetes, and of scarlet fever, appendicitis, retention of urine, and the other diseases which Dr. Nelson testifies could be cured by manipulation, would do the patient no good, but, on the contrary, positive harm. He says the osteopathic treatment testified to by Dr. Nelson as a system is very foolish, and would likely kill patients rather than benefit them.

Dr. J. M. Bodine, a practicing physician of forty years in this state, and the professor of anatomy in the Kentucky School of Medicine for four years, and for thirty-six years in the medical department of the University of Louisville, president of the American Medical College Association, president of the Southern Medical College Association, and president of the Association of American Medical Colleges, testifies that he has investigated osteopathy, and understands in the main the views and methods of its disciples. He testifies that he was one of the investigating committee sent by the State Board of Health of Kentucky to the American School of Osteopathy at Kirksville, and made an examination of said institution and of its teaching. Dr. Bodine testifies that it would be dangerous to the people of Kentucky to license osteopaths from said institution to practice medicine in this state. He says that "osteopathy is the *ne plus ultra* of absurdity;" that the doctrines and practices of osteopathy are utterly preposterous and would be dangerous and positively hurtful in most diseases to invalids who should receive such treatment. He says that in most of the diseases which the school of osteopathy claims to cure, manipulation would do no good on earth, but on the contrary would do harm, and in many cases likely kill its victims.

Dr. J. M. McCormack, of Bowling Green, a physician of distinction in this state, and a practicing physician for twenty-eight years, and secretary of the defendant, the State Board of Health, and who is a graduate of two medical colleges in this country, and a post-graduate in European colleges, testifies that he, in 1896, visited the American School of Osteopathy at Kirksville, Mo., and while there went over the entire school or college; was shown all of its appliances, apparatus and

facilities for teaching medicine and surgery, and that he made a complete examination of the equipment and teaching facilities of said institution with a view of determining whether or not said school was capable of preparing students for the practice of medicine and surgery. He testifies that they had no apparatus whatever, except a few skeletons and some anatomic plates, such as are used in our high schools; that the professor of anatomy of the American School of Osteopathy told him while there that they had never had a cadaver in the school, and only taught anatomy from skeletons and plates; that Dr. A. T. Still, the discoverer of osteopathy, and founder of the institution, and its present president, told him that he was a graduate of one of the old Kansas City schools, and that he graduated in the '40's, but that Dr. Still could not give the name of his alma mater, nor the year in which he graduated. Dr. McCormack further testifies that there were no medical schools in Kansas City in the '40's. He further testifies that he saw two osteopathic doctors treat a patient in Franklin, in this state, and that their treatment was a crude and rough form of massage, and would be positively dangerous as applied to many diseases which osteopathy professes to treat and cure. Dr. McCormack testifies that he has read the catalogues and magazines of the school of osteopathy, and that all osteopathic literature is nebulous and vague, and that the professors and students of the American School of Osteopathy neither teach nor study medicine; that the osteopathic treatment of diseases is positively and highly dangerous in most of the list of diseases which they profess to cure. Dr. McCormack further testifies that he heard Dr. Nelson's testimony in this case on the subject of his qualification and competence to practice, and also heard him state his mode of treating diseases, and that in his (Dr. McCormack's) judgment, to license Dr. Nelson would be dangerous to the health, limbs and lives of those citizens who might be treated by him in most instances.

Dr. A. Morgan Vance, an eminent surgeon of this city, who has practiced surgery here for twenty-five years, and is a specialist on joints and deformities, testifies that the practice of osteopathy is not only dangerous to the limbs and lives of the public, but in many instances is inhuman and barbarous.

Dr. William Cheatham, a distinguished specialist upon the eye, ear, throat and nose, testifies that osteopathy is very dangerous and injurious to the eye; and that the treatment of diphtheria by osteopathy would invariably kill the patient.

Dr. Chester Mayer, a learned homeopathic physician of this city, testifies that he has read up on osteopathy and its treatment of diseases, and that the whole osteopathic theory is contrary to accepted medical and surgical science, and it is dangerous in its application.

Dr. William Bailey, a forty-one years' practicing physician and a member of the State Board of Health, who is also professor of materia medica, therapeutics and public hygiene in the medical department of the University of Louisville, and for twelve years connected with the Hospital College, testifies that he understands osteopathy, that he has read what is called its literature, and that osteopathy, as taught and practiced by graduates of the American School of Osteopathy, unless administered under the supervision and direction of a person learned and skilled in medicine, would be of no benefit to a patient, but, on the contrary, would do great harm.

The foregoing is the testimony of experts for the defendant:

The undersigned, as a committee, pursuant to a request made by the Secretary of the Board of Health of Kentucky, visited Kirksville, Mo., on Nov. 5 and 6, 1897, for the purpose of examining into the status and teaching facilities of the American School of Osteopathy there located.

We found a building and appointments adapted to the teaching of anatomy, physiology, normal histology and chemistry. We found bones and diagrams; but no dissecting-room or physiologic laboratory, and were informed that the students were not accorded the privilege of dissecting the human body with the necessary accruing benefits of such work.

The histologic and chemical laboratories were well equipped with chemicals, microscopes, and other apparatus. All this relates to the study of the healthy man—there being no pathologic laboratory, pathologic specimens, bacterial cultures, charts or diagrams available for teaching pathology, and morbid anatomy.

Materia Medica, which embraces the knowledge of drugs and medicines, and therapeutics, which is their application to the cure of disease is repudiated by this school; its teachers claiming that in the treatment of disease the physician has no use for drugs and medicines, since the brain of every human being is a drug store ready to his hand. According to this school, *manipulation* may be relied on to the exclusion of all medicines, establishing therapeutic measures, and operative surgical procedures.

Without a dissecting-room, without the privileges of seeing and handling the muscles, vessels, nerves, glands, and viscera of the human body, the undersigned can not understand how the graduates of this school can have a practical knowledge of anatomy.

The faculty consists of fourteen teachers, one of whom only writes Doctor of Medicine after his name.

Thus we are presented with the surprising anomaly of a school assuming to teach the science and art of medicine by means of a faculty, who, with one exception, are not graduates of any medical school.

Respectfully submitted,
J. M. BODINE, M.D.,
Prof. of Anatomy, Med. Dept. Univ. of Louisville.
H. A. COTTELL, M.D.,
Prof. of Physiology, Histology, and Diseases of Nervous System, Med. Dept., Univ. of Louisville.
G. W. GRIFFITHS, M.D., Surg. Gen. K. S. T."

From all the testimony in this case by witnesses for the plaintiff and defendant, it appears that the whole arcana of osteopathy, in a nut-shell, is manipulation—massage. It has never been disputed, but, on the contrary, is shown by the proof that many nervous troubles of hysterical women, and indeed many peculiar nervous diseases of men may be greatly relieved by the soothing effect of manipulation or massage, causing rest and sleep to the patient. The fact is established upon the scientific authority of the witnesses for the defendant in this case, and is also attested by eminent American, English, German and French doctors. The testimony of the learned physicians and surgeons for the defendant in this case shows that massage is often a part of the medical treatment of the sick; that massage is taught in every reputable medical college, and school, in the country, and that in all towns and cities of any size or importance in the United States there are practiced masseurs who administer massage treatment to those afflicted with nervous diseases, under the direction of reputable physicians.

It is a fact that by certain physical manipulation of certain muscles, causing nervous reflex action, abnormal cataleptic conditions of the body and muscles may be temporarily produced, with corresponding abnormal states of the mind. This is the basis of hypnotism; but experience and science both attest the fact that hypnotism, however interesting and mysterious its phenomena, is utterly inefficient as a means of permanently relieving pain or remedying disease.

ANCIENT AND MODERN QUACKS.

From the time of the Hierophant of the Egyptian temples, down to the present time, various sects of pretended curers of human disease, without the aid of medicines, have appeared under as many various names, all claiming to have the power of healing through some mysterious agency of their own. They operate outside of the jurisdiction of science, and in a large measure rest their claims for success upon the credulity, imagination or ignorance of their victims. Experience has shown, however, that in all such instances they are quack curers, frauds and impostors. It is interesting to note the diversity of these various quack schools for healing human disease without the aid of medicine or surgery, and outside of the pale of science, that have appeared and disappeared at different times. There are mind cures, faith cures, prayer cures, mental science cures or metaphysical healing, the "Christian Science" with its absent treatment, and hypnotists, enchanters, diviners, alchemists, mystics, astrologers, magicians, soothsayers, telepaths—all claiming to possess miraculous gifts in the way of healing disease—the secrets of occult science, a kind of mystical knowledge—

Deep truths to others unrevealed,
Mysteries from mankind concealed.

through and by which they accomplish marvelous cures and miraculous healing of all the maladies to which the human family is subject.

In many instances these professors are enthusiastic, self-deceived visionaries, while in a great majority of them they are downright frauds, practicing upon the credulity, imagination and ignorance of their patients, for revenue only.

MESMERISM.

Anton Mesmer, the celebrated mystic of the eighteenth century, claimed to possess an occult force derived from the stars, which he exerted upon his patients by stroking their bodies with magnets. Gassner was a wonder doctor, a kind of wild medicine man or priest in Switzerland in the eighteenth century. He effected his cures alone and exclusively by manipulation. He was the first and original osteopath; and were he living could sue Dr. A. E. Still for infringing his patent and pirating his trademark. After consulting with Gassner, Dr. Mesmer discarded his theory of siderial magnetism, and in Paris practiced upon his patients manipulation, aided by dim-lighted rooms and soft music. It is a historic fact that he greatly benefited many hysterical women and [illegible] whom he treated by what he termed animal magnetism, which was simply massage. Upon investigation by a committee of physicians, members of the Academy of Science, appointed by the French government for the purpose of investigating Mesmer, his whole mesmeric system of [illegible] was exposed and shown to be a downright system of [illegible] and jugglery, and Mesmer himself to be an empiric and impostor, and he was driven from France.

NECROMANCY.

Cagliostro was a transcendental medical necromancer of the eighteenth century, who met with great success as a healer, and established what he was pleased to call the "triumphant school of wisdom." He claimed to commune with the denizens of the celestial spheres, and to be able to evoke phantoms from the vasty deep. His two principal magic potions were *materia prima*, and *Egyptian wine*. By means of the first he transmuted all base metals into gold, and by means of the last tonic he restored youth and prolonged life indefinitely. He had a wonderful reign for a while, but at length was exposed as an impostor, driven out of France, and died in prison under an edict of the Pope.

For a hundred years the art of magic, which Byron terms "that accursed witchery of illiterate terms," was practiced by pretenders as a mode of healing the sick. Mark Twain, in the October number of the *Cosmopolitan* (see JOURNAL, Oct. 7, 1899, p. 930), has written an interesting scientific exposition of metaphysical healing known as "Christian Science," and shows that its fundamental principles rest upon the "immovable basis" of an "apodistical principle, to-wit, the relation of systematic duality to incidental deflection."

HYPNOTISM.

I find in the daily newspapers elaborate advertisements of hypnotism as an unique and exalted science. Prof. L. A. Harridan, of Jackson, Mich., in his advertisement of hypnotism, says: "It is as far above the natural sciences, valuable though they are, as mind itself is superior to the lifeless clods of earth. It contains powers and mysteries that are beyond the scope of any of them. It answers to interior yearnings and sympathies that have thrilled the race of men since this old world began. As geology pierces the rocks and astronomy soars to the stars, so hypnotism explores the depths and follows the empyrean flights of thought."

There also appeared last week the advertisement of Dr. John Alexander Dowie, of Chicago, a divine healer, and it appears that on November 1 of this year the doctor was mobbed in Chicago, and was rescued by the police after an all night hard fight.

So that it is not to be wondered at that miraculous claims in the art of healing are asserted by charlatans where they are productive of great profit to the propounders or professors of such systems. But it is the policy of Kentucky to exclude charlatanry and empiricism and quackery from the state.

DECISION.

From the testimony in the case, which I have gone over accurately, it is my opinion that as a matter of fact the American School of Osteopathy at Kirksville, Mo., is not a reputable medical college; and that the defendant in this action, the State Board of Health, has simply performed its duty in refusing to recognize the said school or its diplomas, and to license its disciples or graduates to practice their art in this state.

Out of forty-four states in the Union, it appears in evidence that only four or five states have authorized or allowed the disciples of osteopathy to practice their calling within their borders. In every state the right of an osteopath to practice his calling must depend on the statute of the particular state. In Missouri, where the American School of Osteopathy is chartered, it is enacted by statute that the laws applicable to medicine and surgery do not apply to them; and the testimony of the plaintiff's witnesses in this case shows that they do not teach nor profess to teach medicine and surgery in the American School of Osteopathy. How can it be called a *reputable medical college*, when its own professors repudiate and refuse to teach materia medica and therapeutics and chemistry and anatomy and physiology, and confine themselves *alone to manipulation*? Like the Rosicrucians of the seventeenth century, osteopathy claims to possess a secret gift or method of manipulation which their witnesses testify can not be learned from books, by which, however, they claim they can heal the sick. Their professors on the stand refuse to divulge what their methods or modes of manipulatory treatment are. Sorcerers and witches used love philters, incantations and magic talismans for healing the sick, but refused to divulge what the ingredients were, or how the talisman acted.

It is singular, indeed, that in an enlightened age like this such humbug schools and ignorant pretenders could find recognition by the laws of any state.

Let the injunction be dissolved and the petition dismissed.

STERLING B. TONEY, *Judge*.

Therapeutics.

Treatment of Measles.

The treatment of this disease should be preventive, hygienic and therapeutic.

In case of known exposure the patient should be isolated, in a large airy room if possible, where free ventilation is secured without draughts, the temperature of the room being kept at 65 to 67 F. The room should be moderately darkened and the bed so arranged that the face of the patient will not be turned directly toward a window, especially during the continuance of photophobia and conjunctival irritation. All superfluous hangings and furniture should be dispensed with. The covering of the patient should be light and comfortable, and plenty of water should be given when the patient is thirsty. The fluid ingested may be pure water, carbonated water, vichy, apollinaris or milk given cool, but not iced. Little food is required during the first few days, and what is given should be light and easily digested. With the decline of the temperature and the abatement of gastro-intestinal symptoms additions may be gradually made to the diet until the full finding of health is resumed.

During the illness the body of the patient should be frequently sponged with antiseptic solutions, such as solutions of boric acid, peroxid of hydrogen, 1 ounce to 1 quart of water, or the body anointed with carbolized oil or vaselin. During convalescence the patient should receive a warm bath daily, and when well enough to leave the room and go into the open air he should be warmly dressed, avoiding sudden changes of temperature. The therapeutic treatment in ordinary cases is very simple, merely endeavoring to prevent complications. Should nausea be troublesome bismuth subnitrate in full doses may be necessary; or milk and lime-water in small quantities given at frequent intervals will often prove beneficial. In severe cases it may be necessary to apply a sinapism over the "pit of the stomach."

Relief of constipation by simple warm enemata of soap and water, sweet-oil, or castor-oil, is preferable to the administration of cathartics, since they are liable to cause intestinal irritation and recession of the eruption.

When the cough is troublesome, various expectorant mixtures may be employed. The following have been recommended by different authorities:

℞. Tinct. aconiti rad. ..... m. xvi
Extracti ipecac fluidi ..... ʒss
Tinct. opii deod ..... ʒi
Aquæ, q. s., ad ..... ℥ii
M. Sig. Teaspoonful every two or three hours.

—*Louis Fischer.*

This prescription might be improved by modifying it as follows:

℞. Tinct. aconite rad ..... m. v
Syrupi ipecac ..... ʒiss
Tinct. opii camph ..... ʒii
Aquæ anisi ..... ℥i
Syrupi tolutani q. s., ad ..... ℥ii
M. Sig. Teaspoonful every half to one hour.

℞. Ammonii bromidi ..... ʒss to ʒiss
Syrupi glycyrrhizæ ..... ℥i
Decoct. althææ, q. s., ad ..... ℥ii
M. Sig. Teaspoonful every hour.

℞. Extracti hyoscyami ..... gr. ii
Syrupi ..... ʒiii
Aquæ destil., q. s., ad ..... ℥ii
M. Sig. A teaspoonful every two hours.

—*Widerhoffer.*

FOR DISTRESSING AND PERSISTENT COUGH.

℞. Antimonii et potassii tartratis ..... gr. i
Potassii chloratis ..... gr. x
Aquæ menthæ pip ..... ℥iv
M. Sig. A teaspoonful every four hours until the expectoration is free.

Or

℞. Ammonii chloridi ..... gr. xxx
Morphinæ sulphatis ..... gr. i
Pulv. glycyrrhizæ rad ..... ʒi
Aquæ ..... ℥iv
M. Sig. A teaspoonful every four or five hours.

—*Carpenter.*

Caution.—To be given with watchfulness to very young children or the morphin reduced in amount.

Dr. Louis Starr advises, to quote his own words: "Early in the attack, while the temperature is elevated and the cough hoarse, citrate of potassium is useful as a febrifuge and relaxing expectorant. To a child 6 years old from one to two fluidrams of liquor potassii citratis should be given every two hours, and to this may be added 20 drops of paregoric and 5 or 10 drops of syrup of ipecacuanha if the cough becomes very troublesome and croupy—a tendency often exhibited during the first two or three nights of the attack. Later, as the cough grows loose, a stimulating expectorant should be substituted. The best of this class of drugs is chlorid of ammonium, which must be given in solution and in doses of 1 to 2 grains every second hour. As convalescence approaches. 1 grain of quinin may be given three times daily, either in solution or in chocolate tablets; sometimes, too, there is sufficient debilility to warrant the administration of moderate doses of whisky. Finally, a course of iron or of cod-liver oil—in tuberculous cases—is often necessary."

Not infrequently great benefit can be derived when the cough is not severe, by demulcent drinks, such as infusion of slippery-elm bark, flaxseed tea, or solution of gum arabic, to which lemon juice may be added to render it more palatable.

Dr. J. Lewis Smith says, in "Hare's System of Practical Therapeutics": "Since one of the most common and dangerous complications of measles is inflammation of the respiratory organs, local treatment directed to the chest is important if the bronchitis have more than the ordinary severity and the cough be frequent and painful. The chest, under such circumstances, should be covered by cotton wadding or thick flannel, over which, in cold weather, it may be best to apply oiled silk. Such applications increase the amount of eruption underneath, and a copious eruption tends to prevent the occurrence of capillary bronchitis and pneumonia. If the eruption be tardy in its appearance or indistinct, it is well to produce moderate counter-irritation over the chest by some gentle irritant upon the surface such as camphorated oil, to which in the older children, one-fifth or one sixth part of turpentin may be added, or the oleum caryophylli, ʒi, to oleum camphorati, ℥ii, may be employed."

Dr. Smith advocates the prompt application to the chest, anteriorly, laterally and posteriorly, of a light and thin poultice of equal parts of pulverized ginger and flaxseed, or of 1 part of mustard to 16 of flaxseed, between two pieces of muslin, made so moist that it wets the hands in holding, and covered by oiled silk or muslin, in cases where there is extension of the inflammation from the bronchial tubes into the alveoli.

Hot mustard foot-baths are extremely efficient in these cases, particularly when the eruption is delayed, appears irregularly, or retrocedes. Liquor ammonii acetatis, in doses of 1 or 2 teaspoonfuls every two hours, in sweetened water, is also of use.

Not infrequently at the height of the eruption the fever will demand attention, particularly where it is persistently high. Phenacetin may be given in doses of from 1 to 5 grains according to the age of the child, carefully watching the condition of the heart. Should the temperature not yield promptly to the antipyretic the remedy may be again administered within an hour or two.

Carpenter suggests the following for fever accompanied by headache and restlessness:

℞. Phenacetin ..... gr. ii
Caffeine citratis ..... gr. ¼
Salol ..... gr. ss
Sacchari albæ, q. s.
M. Sig. For one dose, and repeat as necessary.

If the patient is troubled with insomnia and great restlessness the following combination will be found useful:

℞. Extracti conii fluidi ..... m. i to ii
Sulphonal ..... gr. i to ii
M. Disp. in cap. No. 1.
Sig. Take a dose this size every two hours for three doses, preferably 6, 8 and 10 p.m.

Or

℞. Tinct. opii camph ..... m. x
Chloralamid ..... gr. v
Sodii bromidi ..... gr. vii
Syrupi tolu ..... m. xv
Aquæ anisi, q. s., ad ..... ʒi
M. Sig. Take one dose. The amount of the medicaments may be increased or diminished according to the age and condition of the patient.

By many physicians baths are preferred to antipyretics for the reduction of temperature. As to the method employed where the bath is resorted to, Dr. Starr says: "The child should be undressed as quickly as possible and then immersed in a bath of 90 F.; cold water is now rapidly added until the temperature of the bath is reduced to 80. After a sufficient intermission—usually five or six minutes—the body is quickly dried with a soft towel and the patient put back to bed between sheets. The effect of the bath is sometimes very powerful and the child remains livid looking and collapsed for some time. In such a case small doses of brandy must be given in warm milk at short intervals, and artificial heat applied to the feet."

When in doubt as to the advisability of using antipyretics or baths, Dr. Starr suggests moderately full doses of quinin sulphate. In his experience, when given by the mouth, or preferably by the rectum, in suppositories of two to four grains every three or four hours, it has frequently reduced the temperature, quieted restlessness, and produced sleep.

The condition of the eyes must not be overlooked. The eyelids should be washed every three or four hours with water as hot as can be borne, and afterward a few drops of a saturated solution of boric acid applied to the conjunctivæ.

FOR SEVERE CONJUNCTIVITIS.

In cases of severe conjunctivitis the following prescriptions may be employed:

℞. Zinci sulphatis
Morphinæ sulphatis, āā ..... gr. ss
Aquæ rosæ ..... ʒi
M. Sig. A few drops into each eye twice or thrice daily.

℞. Acidi borici
Aquæ (sat. sol.), āā ..... ℥iv
M. Sig. Wash eyes eight or ten times daily.

Or, should there be persistent discharge:

℞. Hydrargyri chloridi mitis ..... gr. x
Vaselini (white) ..... ℥iv
M. Sig. Apply to lids.

℞. Cocainæ hydrochlor ..... gr. i
Aquæ destil ..... ʒiv
M. Sig. Drop a few drops into the eyes twice daily.

The nose and throat should be thoroughly sprayed every three or four hours with some mild antiseptic solution, such as diluted borolyptol, glycothymolin etc.

Chronic Cystitis.

Dr. Hearn writes, in Dunglison's *College and Clinical Record*, that chronic bladder affections, in which the mucous membrane is depraved and there is frequent and difficult micturition, and perhaps prostatic enlargement in old men, are helped by the following:

℞. Ext. uvæ ursi ..... ʒvi
Tinct. hyoscyami ..... ʒss
Tinct. opii camphorat ..... ʒiss
Liq. potassæ ..... ʒii
Tinct. lupuli ..... ʒiii
Syrupi ..... ʒss
Aquæ menthæ pip., q. s., ad ..... ℥vi
M. Sig. Two teaspoonfuls twice daily in water.

If the urine is alkaline, boric acid should be substituted for the liquor potassæ.

Prophylaxis of Gonorrhea.

Kopp's improved formula for prophylactic injections of protargol is given as follows in the *Munch. Med. Woch.*, of Dec. 12, 1899:

℞. Protargol
Tere c. glycerin. āā ..... parts xx
Aqua destil. (tepid), ad ..... parts lx
M. Rub the protargol and glycerin together in a bowl and add the tepid water, which dissolves them at once.

Treatment of Furunculosis.

Martin treats furunculosis of external origin by hot douches followed by washing with "black soap," ether and sublimate for eight to ten minutes a day. Brewer's yeast he finds remarkably beneficial in furunculosis of digestive origin. See JOURNAL, xxxiii, p. 176.—*Munch. Med. Woch.*, Dec. 12, 1899.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), Dec. 30, 1899.

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3.— Brief Report of Epidemic of Typhoid Fever in Worthville, N. C., During 1898. Charles C. Hubbard.

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4.—*Contributions to Surgery of Bile Passages, Especially of Common Bile-Duct. W. S. Halsted.
5.—*Unlooked for Dystocia in Certain Multiparæ. E. S. Boland.
6.— Case of Extraperitoneal Nephro-Ureterectomy for Tubercular Disease. Edgar Garceau.
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8.—*X-Ray Examinations for Life Insurance Companies. Francis H. Williams.

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9.— Rules Which Should be Observed by Editors and Publishers of Medical Journals. H. O. Hall.
10.—*Grave Secondary Anemia, Simulating Progressive Pernicious Anemia. J. M. DaCosta.
11.—*Case of Successful Suture of Vas Deferens Divided in a Hernia Operation. John B. Roberts.
12.—*Significance of Bovine Tuberculosis and Its Eradication and Prevention in Canada. J. George Adami.
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16.— Case of Tetanus Successfully Treated with Antitetanic Serum. E. B. Adams.
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18.—*Etherization: Means Whereby the Quantity was Reduced from 1000 to 100 Grams per Hour; with Especial Reference to Position of Head as Affecting Respiration. A. Ernest Gallant.
19.—*Treatment of Serous Effusions. Charles H. Lewis.
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23.—*Some of the Dangers of the Market. Mary Sherwood.
24.— Inflation and Medication of Middle Ear in Non-Suppurative Otitis Media. E. Oliver Belt.
25.— Free Use of Drinking Water in Acute Hemorrhage. Louis Kolipinski.

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27.—*Arrangement of Gastric Instruments Devised to Facilitate the Physical Examination of the Stomach and Its Treatment. Charles S. Fischer.
28.— Some Practical Notes on Diseases of the Rectum. Lewis H. Adler.
29.— Diphtheria: Remarks on Clinical Diagnosis and Treatment. Herman B. Sheffield.
30.—*Surgical Treatment of Phthisis. Walter C. Wood.
31.—*Mastoiditis: Importance of Early Surgical Treatment. James Francis McCaw.
32.—*Heroin in Affections of Respiratory Organs Henry D. Fulton.
33.—*Diet in Typhoid Fever. Edward Speidel.
34.—*Examinations of Urine in Epilepsy. Edwin G. Klein.

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35.—*Experimental Research into Cause of Phenomena Attending the Inhaling of Hot Air and Flame. George W. Crile.
36.— Ophthalmic Memoranda: Ocular Affections in the Negro. David DeBeck.

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37.—*Four Cases of Tetanus Treated by Carbolic Acid Injection, at the St. Louis City Hospital. H. M. Neitert and R. F. Amyx.

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39.— Note on Reasonable Control of Tuberculosis. Carroll E. Edson.
40.—*Alexander Operation in Retrodeviations of Uterus. Hugh M. Taylor.

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41.—*Primary Treatment, Improper and Proper, of Lacerated and Contused Wounds of the Hands and Feet. Walter Courtney.
42.— Suppurative Disease of Accessory Cavities of Nose. Their Symptomatology and Diagnosis. C. E. Bean.
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44.—*Pus Involving Pelvic Viscera and Adjacent Structures. W. C. Bogart.
45.—*Temperament and Disease, or "The New Humoral Pathology." Albert E. Sterne.
46.—*Report of Eight Cases of Diphtheria Occurring in One Family. H. C. Campbell.

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47.—*Neuroses of Menopause Caused by Intestinal Fermentation. Charles J. Aldrich.
48.—*Surgery in Its Relation to Female Pelvic Organs. John R. Wheeler.
49.— Some Practical Experience in Asepsis and Antisepsis in Obstetrics. Douglas Ayres.
50.— Report of Case of Puerperal Sepsis and What It Teaches. Charles H. Glidden.
51.— *Eclampsia. F. L. Brigham.
52.— Typhoid Otitis. Charles H. Painter.
53.— Case of Cystitis of Long Standing, Complicated with Chronic Malaria Together with Sluggish Liver and Habitual Constipation. J. W. Walker.
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64.— Some Notes on Uric Acid as a Cause of Gastric Disorders. Wm. H. Murray.
65.— Implantation of a Glass Ball into the Orbital Cavity. L. Webster Fox.
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67.— Alopecia. L. Duncan Bulkley.

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69.—*Compound Traumatic Separation of Lower Epiphysis of Femur. Gilbert Geoffrey Cottam.
70.— Head Injuries. William Jepson.

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72.— Simple Eye Shade. S. Mitchell.
73.—*Two Cases of Methyl Alcohol Amaurosis from Inhalation of the Vapor. R. S. Patillo.
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79.— Should Reputable Physicians Encourge the Use of Secret or Semi-secret Proprietary Medicines? Bittle C. Keister.
80.— Recent Work on the Etiology of Malaria. William S. Thayer.
81.— Vagaries of Fever as They Occur in the Mountains of Virginia. R. M. Wiley.
82.— Scarlet Fever. Thomas N. Vincent.
83.— Case of Gunshot Wound of the Knee-Joint. Llewellyn Eliot.

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89.—*Prognosis and Treatment of Nephritis. H. A. Hare.
90.— Anesthetics, Local and General, as Applied to Taxis, Herniotomy, and Operations for Radical Cure of Hernia. J. Coplin Stinson.
91.—*Treatment of Gonorrhea in Women, with Special Reference to Urethritis. G. E. Shoemaker.

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93.— Late Ideas Regarding Surgical Antisepsis. A. G. Ellis.
94.— Women with Multiple Cardiac Lesions, Complicated with Serous Intra-Abdominal Trouble, Possibly due to Paracentesis—The Paracentesis Followed by a Change in the Ratio of White Corpuscles to Red. Wm. Pepper.

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96.—*History and Discussion of a Case of Menière's Syndrome. Heber N. Hoople.
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101.— Use of Fats in Wasting Diseases. C. W. Lillie.
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108.— Discussion of General Meningitis. T. Brooks.
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111.—*Scholastics and Mystics. James M. Ball.

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113.—*Clinical Fragments. G. W. Crile.
114.—*Obstipation and Its Radical Treatment. Thos. Chas. Martin.
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116.— Two Cases of Chronic Morphinism Complicated with Chronic Alcoholism. Austin J. Pressey.
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122.— Syphilitic Stricture of Rectum. Joseph M. Mathews.
123.— Report of a 94-Pound Ovarian Cyst. W. M. Mayfield.
124.— Surgery as a Business. C. P. Thomas.
125.— Report of Some Unusual Cases. Wm. Bradford Craig.
126.— Treatment of Septic Infections Following Pin-pricks, Abrasions and Similar Injuries. Edward H. Ochsner.

Occidental Medical Times (San Francisco), Dec. 15, 1899.

127.— State Requirements for Admission to Practice of Medicine. A. M. Henderson.
128.— Medical Practice in Gautemala. W. H. Wentworth.
129.— Pleuritis. J. S. Adams.

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130.— Eye Strain as a Cause of Headache and Other Nervous Manifestations. Charles D. Thomas.
131.— Chronic Bright's Disease. I. F. Harter.
132.— Medical Organization. James Tweddale.

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133.—*Presidental Address, Middle Tenn. Med. Soc. M. C. McGannon.
134.— Hydrotherapy. L. L. Sheddan.
135.—*First Attention to Injured Eyes. George H. Price.
136.— Auto-Intoxication. L. E. Ragsdale.
137.— Septic Wounds. C. N. Cowden.
138.— Puerperal Eclampsia, with Report of Cases. Reginald Stonestreet.

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139.— Cancer. Hugh M. Taylor.
140.—*Four Recent Cases of Gall-stones with Remarks. Hunter McGuire.
141.— Therapeutic Value of Hypnotism. Jno. R. Rose.
142.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
143.— Ecce Quam Bonum! Henry R. Slack.
144.— Christian Scientists: What Shall We Do With Them? F. Julian Carroll.

Texas Medical News (Austin), December, 1899.

145.— Malarial Hematuria. M. L. Langford.
146.— When to Operate in Gin and Railroad Accidents. J. P. Oliver.
147.— Baby's First Year. J. C. Van Nuys.

Canada Lancet (Toronto), December, 1899.

148.— Some Historic and Other Data on Circumcision. N. E. Aronstein.
149.— Anemia and Its Treatment. Deering J. Roberts.
150.— Bubonic Plague in 1141 B. C. Frank Tidswell and James A. Dick.

Iowa Medical Journal (Des Moines), December, 1899.

151.—*Prevention of Wound Infection. C. E. Stoner.
152.— Placenta Previa. T. J. Shuell.

Medical Sentinel (Portland, Ore.), December, 1899.

153.— Points of Clinical Interest in Recent Operative Cases. Andrew C. Smith.
154.— Congenital Rectal Occlusion the Result of Maternal Impressions. C. E. Worthington.
155.— When Shall We Operate for Hernia? J. B. Eagleson.
156.— Medical Legislation. R. L. Nourse.
157.— Uric Acid. E. J. Labbe.

AMERICAN.

1. **Splenectomy.**—The spleen is not an indispensable organ in the economy, so its removal is not only sometimes possible, but desirable. It is indicated by enlargement from a paludal intoxication apparently dependent on the growth, in tubercular enlargement, as well as in primary malignant disease and in misplacement by axial rotation and in rupture. The contraindications to its removal are extensive adhesions, leucocythemia and profound cachexia. In short, splenectomy should never be done except under the most favorable circumstances unless immediate death is threatened. Splenopexy has been suggested by some, but Bovée suggests that it must be remembered that the spleen is not a necessary organ, and that splenectomy is really the preferable operation. The symptoms are nearly always referable to the location of the organ, though in wandering spleen other organs may appear to be involved. In rupture, the symptoms are those of profound shock and internal hemorrhage. In malarial enlargement, the history of the case is to be had. Localized pain, mild or severe, is nearly always present, and marked cachexia is often noticed. In tubercular spleen, the differential symptoms are not always plain, and the same may be said to be true of malignant disease. The condition of the blood is of the greatest importance, and its changes from the normal form one of the most important complications. Anemia, extensive adhesions, diseases of the liver, pregnancy, etc., are important complications. The diagnosis is not ordinarily difficult, and the technic of the operation is well known, but Bovée here calls attention to one important point, viz., the ligation of the gastrosplenic ligament before dealing with the larger blood-vessels. This loosens the organ and materially facilitates the operation. The results of splenectomy are not unfavorable, and in the cases collected by the author, the deaths have been reduced to about 16 per cent. He reports two successful cases in detail.

2. **White Swelling of the Knee.**—Judson reports eleven cases of this condition, and calls attention to the most important point of treatment, which is to relieve the joint from pressure and traumatisms.

4. **Surgery of Common Bile-Duct.**—Halsted here reports several cases of surgery of the bile-duct, containing points of special interest. His paper is a long one and can be best appreciated by reference to the original.

5. **Dystocia in Multiparae.**—Concerning the difficulty of labor in multiparæ, occasionally met with, Boland sums up as follows: 1. Certain multiparæ, after one or more easy deliveries, lose the power of natural parturition. 2. This is due to failure of the expelling forces in the uterus and abdominal walls. 3. Artificial delivery is imperative in such cases as promptly as a diagnosis is established. 4. Infant mortality is high in artificial delivery by the natural passages. 5. The human female is very tolerant of aseptic mechanical genital injuries. 6. Is suprapubic delivery justifiable in these cases when a positive diagnosis is established?

7. **Buried Sutures in Lacerations Involving Sphincters.**—Kelly has recently described his method of operating on the ruptured perineum, and called attention particularly to dissecting out and suturing the sphincter ani muscle with buried sutures of catgut. Cabot has used buried sutures for many years, for this purpose, with extremely good results, and as his technic differs somewhat from that of Kelly, he describes it as follows: After the perineum, completely ruptured through the sphincter, has been thoroughly refreshed and the ends of the sphincter have been laid bare, a row of catgut stitches is taken, bringing together the rectal wall, particular care being taken to bring the stitches out exactly on the edge of the mucous membrane, not entering the caliber of the bowel. The outermost of these stitches include the divided ends of the sphincter muscle. When this row of stitches is tied, the rectum is entirely closed off from the wound and we have left a surface resembling that of a rupture of the perineum of the second grade, in which the rectum is not involved. A second row of buried catgut sutures is then taken, and with the stitch [illegible] the ruptured pelvic fascia, the levator ani muscle and the ends of the transverse perineal and sphincter muscles are [illegible] drawn together. In this way a solid perineal body is constructed. Three rows of stitches are often necessary in accomplishing this. Finally, the mucous membrane of the vagina and the skin surface are closed [illegible]. The use of [illegible] of Lanet is not infrequently used in [illegible] method of suturing, in order to still further [illegible] consolidate the perineal body. The result of [illegible] been the construction of a perineum of [illegible] depth than has been obtained in the [illegible]

other method. The buried stitches have in no instance given any trouble, and the method is one which must commend itself to any one giving it a thorough trial. In treatment of the rectal wall, Kelly approximates the rectal rent "by fine interrupted silk sutures passed on the rectal side, entering and emerging on the mucosa about 1 cm. from the margin of the cut." Stitches thus entering the rectum always have the disadvantage that they become infected from the rectal contents, and silk especially acts as a wick and becomes soaked with the fluids that are in contact with the exposed portion of the threads. By the writer's method, the stitches do not enter the rectum at all, but draw the mucous membrane snugly together, exactly as the mucous membrane of the bladder is approximated by the operation for vesicovaginal fistula. Results prove that infection from the rectal mucous membrane does not follow this method. He also describes one of the many cases on which he has operated in this way, in which union of the deep parts by first intention was not absolute. The suture used has been chromicized catgut of small size, which is easy to disinfect and quick to absorb. If extra strength is required, it is used double.

8. **X-Ray Examinations in Life Insurance.**—Williams calls attention to the usefulness of X-ray examinations for life insurance purposes, especially as regards the thoracic organs. He thinks there is no other method which gives us such trustworthy information and complete evidence of normal and abnormal conditions in the chest as the use of the fluorescent screen.

10. **Grave Secondary Anemia.**—DaCosta reports a case strongly simulating progressive pernicious anemia, but differing from it in the great reduction of hemoglobin, which was down to 17 per cent., and the increase in white blood-cells, both of which were against the diagnosis. He considered the case one of secondary anemia following achylia gastrica, serious enough in itself but not so serious as pernicious anemia. The treatment recommended is arsenic—Fowler's solution—3 drops every four hours, to be followed later by iron when it can be digested, and probably also dilute hydrochloric acid. The diet is milk, eggs, meat juice and underdone meat finely cut up with 2 grains of caroid for its digestion.

11. **Suture of Vas Deferens.**—Roberts reports a case of accidental severance of the vas deferens, in which he operated by slitting up one end of the severed tube, inserting the other end within it, suturing it with a few sutures to close the split and hold the parts together, as has been done in cases of divided ureter. He reports the case as probably new, and suggests the propriety of the method in similar accidents. In his instance the results, as far as preservation of the testicle was concerned, were good.

12.—See abstract in THE JOURNAL of Sept. 2, 1899, p. 621.

17.—Ibid., Aug. 19, 1899, p. 482.

18. **Etherization.**—Gallant describes his method of giving ether: an open cone which can be closed with the finger and which will permit the free access of air when desired. He also notes the especially troublesome forms of stertor occurring in these patients, which he thinks are due to positions of the head. The patient must not have the neck bent too far back or the jaw too near the sternum. He points out the various accidents and how to meet them, and calls attention to the following points in after-care: 1. Of hot water, he says that ever since a celiotomy patient under his care sat up in bed two hours after operation, emptied the contents of a hot-water bag into her stomach and recovered, it has been his practice to give hot water *ad libitum* as soon as the patient is conscious enough to ask for a drink. It allays gastric irritability, quenches the thirst, and if vomited really washes out the stomach. Its early use has a good effect on the kidneys and intestines. 2. As to nourishment, milk, with or without lime-water, is given as soon as the stomach is quiescent. Starvation does not strengthen a weak heart, nor aid recovery from loss of blood or shock. 3. As soon as the dorsal decubitus becomes at all irksome, he turns the patient on the side, when a restful sleep will follow. 4. Intestinal distension or paresis usually begins during the latter part of the first day, and soon becomes a source of great discomfort. If not relieved by high enemata, he at once resorts to friction along the colon; beginning at the right iliac fossa, he passes the hand up the ascending, across the transverse, and down the descending colon, slowly repeating this maneuver for fifteen or twenty minutes. This results in free discharge of gas from the rectum, gives immediate relief, assures us that there are no intestinal kinks, and that the bowels will move whenever it is deemed desirable.

19. **Treatment of Serous Effusions.**—Lewis discusses the mechanism of serous effusions in detail, and the futility of the ordinarily recommended methods are pointed out. He says that diuretics and counterirritants have had their day; hydragogue catharties drain fluid from the vessels, but carry no assurance that the latter will recoup themselves from the reservoir of the pleura; diaphoretics possess all the disadvantages of hydragogue catharties with none of their disadvantages; iodids and salicylates serve as forlorn hopes; antiphlogistics are antiquated and unscientific; so that the patient, as a rule, emerges from a longer or shorter course of internal medication, and comes to the aspirator, a sadder and weaker man. Here, too, no assurance can be given that there will be no return of the fluid, and if repeated aspirations are necessary, "the last state of the man is worse than the first." His own method, after having experimented with various astringents, which would, he thought, lead to exudative processes and absorption of the fluid, was the use of methylene blue mixed with the serum after aspiration, and reinjected, and he reports twenty cases in which this treatment was followed with apparent satisfaction to himself. He believes the methylene blue thus introduced is fatal to the tubercle as well as to other germs, and as its solution with the serum is perfect, it reaches every part.

23. **Dangers of Food Infection.**—Sherwood calls attention to the dangers of food infection, especially of meat and milk, and criticises the lack of care in the examination of food for domestic use. She reports that she has had the not unmixed pleasure of visiting some of the urban cow stables where milk is obtained, and found there most unsanitary conditions. She believes that a larger force of inspectors and a correspondingly more thorough work is necessary for the public safety.

26. **Tubercle Germs in Giant Cells.**—The occurrence of tubercle bacilli in giant cells in human tissues has been insisted on by Koch and Weigert and others, while Orthmann, Fütterer and Krückmann express doubt as to their frequency in this situation. Bourland reports that he has examined thousands of giant cells in human tissues, and in only four cases has he found them to enclose tubercle bacilli. He therefore offers this as supporting the doubts and findings of Fütterer and Krückmann. The relation, he thinks, between the bacilli and the giant cells must be a variable one, not fixed by anything apparent in the light of our present knowledge. In order to meet the questions that might be raised as to his technique, he gives it in detail.

27. **For Examination of Stomach.**—Fischer describes a form of gastric tube through which various instruments may be introduced into the stomach without coming in contact with the tissues, and thus avoiding the repeated intubation which is sometimes irksome to the patient.

30. **Surgical Treatment of Phthisis.**—The various methods of surgical intervention for tuberculous disease of the lungs are reviewed by Wood, who speaks favorably of the Murphy method of causing collapse of the lungs by nitrogen injection. He believes there is merit in this, and has been surprised not to see more reports of experiences with it.

31. **Early Treatment of Mastoiditis.**—The importance of mastoiditis and the necessity of its proper treatment are discussed by McCaw, who concludes his paper as follows: 1. In threatened mastoid involvement, and in the mild acute cases, the conservative plan of treatment should be first tried for a week or ten days, unless dangerous symptoms arise. 2. Operative interference should be instituted in acute cases where there is sagging of the posterosuperior canal wall; where the infection is of a virulent nature, and in all cases complicating chronic otorrheas.

32. **Value of Heroin.**—Fulton adds another recommendation of the advantages of heroin in respiratory disorders, and claims that while it is a veritable boon to the consumptive as a palliative to cough, it has a wide range of usefulness in

both acute and chronic forms of bronchitis. He employed it with great satisfaction in a series of cases last winter, giving it to children and adults in proportionate doses. By previous knowledge of the patient in most cases it was not difficult to see the effect which this agent had in bringing about improvement or recovery. Maximum doses produced gastric disturbances similar to those of morphin, but in lesser degree, and the desired effects can generally be obtained short of producing this.

33. **Diet in Typhoid.**—Speidel believes that the most important food in typhoid is water, which may be given by enema if not readily tolerated by the mouth, or intravenously in extreme cases. The error of overfeeding typhoid patients is often made. They rarely die of starvation, and much of the delirium and tympanitis of the disease may be ascribed to errors in this direction. The amount of food should be in proportion to the digestive capacity of the patient, as evidenced by the absence of undigested food in the stools and by the temperature, a patient with high temperature being in no condition to digest food. Buttermilk is the ideal food, obtained fresh every day. Next in order is sweet milk, which can be prepared in various ways and should be administered with some care. Filtration will answer in the majority of cases, but if necessary, Pasteurization and sterilization may be resorted to. When milk is absolutely refused, it will be found that unfermented grape-juice in wine-glass doses every three hours will support the patient during the entire febrile stage. When the temperature reaches normal in the morning, he allows the patient to chew steak, if trustworthy, cautioning him not to swallow the fiber, and also allows him chewing gum for the exercise of the muscles of mastication. The gradual change from liquid to solid diet is rendered easier if gelatin preparations are used. In ordinary cases a simple dietary will answer, but when complications occur and the patient rejects the ordinary routine, the physician is often severely puzzled, and various methods mentioned in this paper are offered as suggestions in such cases.

34. **Urine in Epilepsy.**—Klein has examined the urine in twenty-three patients in the Willard Asylum. The findings were chiefly transient albuminuria and excess of chlorids after the fits. Testing in the intervals did not find these characteristics so manifest in so many cases. Glucose was not found, and he reports a series of experiments made with strongly saccharine diet, in which he thinks he found a larger amount of glycosuria than would be found in normal individuals under similar conditions.

35. **Inhalation of Hot Air and Flame.**—The summary of the evidence obtained by Crile's experimental research on dogs is as follows: The evidence tends to show that the direct effects of the flame inhaled into the lungs, with the upper air-passages excluded, are not capable of causing sudden death. When the flame is inhaled through the mouth and upper air-passages as well, a very marked reflex inhibitory action on both the heart and the respiration is produced. In such a case after a control has been taken—a control showing a characteristic inhibitory acton on the heart and respiration—when both vagi are severed, the inhibitory action on the heart is wholly prevented, and while the respirations are not so greatly altered in their character, they do not wholly escape reflex influence. The same may be said of similar experiments in which physiologic doses of atropin had been given. The great irregularity of the blood-pressure curve shows that two factors are at work in its production, the one an accelerating, the other an inhibiting; and in the cases in which a blast of hot air or flame was introduced through the mouth, both of these factors were brought simultaneously into play, while in the experiments in which the flame was forced into the lungs through the trachea, but one factor—the accelerating—was active. In view of the fact that hot air and flame very markedly stimulate reflex inhibition of the heart and the respiration, it is quite probable that the sudden collapse from inhaling hot air or flame is due to the reflex inhibition of the cardiac and respiratory action, in the way just pointed out. Death may be caused in a few minutes by exhaustion of both the respiratory and circulatory mechanisms from overstimulation.

37. **Tetanus Treated by Carbolic Acid.**—Four cases of the treatment of tetanus by the Baccelli method, by carbolic acid injections, are here reported by Neitert and Amyx. In three instances though the injections were larger than those recommended by Ascoli, the patient died. The fourth made a good recovery.

40. See ¶ 57, below.

41. **Treatment of Wounds of Hands and Feet.**—Courtney criticises the average practice in treating lacerated and contused wounds of the extremities, and points out the faults: 1. The sacrifice of portions before there is a reasonable certainty that the blood-supply has been entirely destroyed and exposed bones will not be covered. 2. The fallacy that the hand or foot of a laboring man can be made surely surgically clean at the time of the first dressing. 3. Suturing the wound while uncertain as to asepsis. 4. Wet or moist dressings. 5. The free use of iodoform and the dismissal of the patient to his home, in office cases, with only a few instructions as to rest, position, etc., and as to his return for future care. He gives his own method in detail.

44.—This article, here appearing as an original paper, has already been printed elsewhere, as titled in THE JOURNAL of Dec. 2, 1899, p. 1411, ¶ 117; also December 23, p. 1601, ¶ 92.

45.—The same may be said of this paper, abstracted in THE JOURNAL of Nov. 18, 1899, p. 1284, ¶ 96; also mentioned as again printed as an original paper, December 2, p. 1411, ¶ 143, and December 16, p. 1539, ¶ 86.

46. **Antitoxin in Diphtheria.**—Campbell reports in detail the results from the use of antitoxin in eight cases of diphtheria occurring in one family. His results were favorable.

47. **Neuroses of the Menopause.**—The chief point maintained by Aldrich is that the menopause is a physiologic process and not one of decay. The doctrine that it is sexual and physical decrepitude is misleading and not founded on facts. He attributes a large part of the trouble to absorption of toxins from the intestinal tract, and insists on the importance of looking after the digestion, the intestinal asepsis and constipation.

48. **Surgery of Female Pelvic Organs.**—This article is a plea for radical rather than partial operations in pelvic surgery, and Wheeler sums up in the following propositions: 1. In operative cases the best prospect of a complete and speedy restoration of health is afforded by a radical operation. 2. In the case of a young woman with most of her child-bearing life before her, it may be justifiable to offer the less reliable aid of a partial operation, in order to give her every chance to preserve the function of reproduction. 3. In the case of a woman approaching the menopause—and *a fortiori* if she has passed it—there is no valid reason for refusing to give her the benefit of a radical operation.

51.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1225.

55.—Ibid.

57.—This paper, here printed as an original, has appeared elsewhere: see THE JOURNAL of Dec. 23, 1899, p. 1601, ¶ 113; also ¶ 40, above.

58. **Antidote for Snake and Spider Bites.**—Kent reports two cases of bites, one from a spider and the other from a copperhead, which were cured by the use of a plant growing in Virginia, one of the club mosses, Selaginella apus. The method of using this plant, which is locally known as "snake moss," is to take about .5 dram, or as much as can be packed in a large thimble, macerate it thoroughly with an ounce of sweet milk and have the patient drink the milk and swallow a portion of the moss, binding the balance to the wound. The author is, however, doubtful as to any special good from this last measure. He could add, he says, many cases to those cited, but he thinks them sufficient to establish the value of this remedy. (See also, ¶ 142, below.)

60.—This paper appeared in THE JOURNAL of Oct. 21, 1899.

69. **Separation of Lower Epiphysis of Femur.**—After reporting a case in a boy aged 7, and reviewing the literature, Cottam draws his conclusions as to this condition in the following: 1. Compound traumatic separation of the lower epiphysis of the femur, from its structural peculiarities, is a formidable lesion, rarely treated successfully and attended with

a high mortality. 2. If the popliteal vessels are injured and the patient rallies, amputation is inevitable. 3. If the vessels are intact, one of two courses may be followed, i. e., reduction, with or without wiring, or resection of the diaphysis, if difficulty is experienced in reduction or in maintaining apposition, followed by wiring. 4. Plaster-of-Paris immobilization is invariably indicated. 5. Traction extension in any shape or form is contraindicated. 6. Asepsis must be carried to the acme of rigidity.

73.—See abstract in THE JOURNAL of Dec. 30, 1899, p. 1653.

77.—Ibid., Dec. 9, 1899, ¶ 114, p. 1483.

84. **Prevention and Treatment of Puerperal Eclampsia.**—Davis insists on the regular action of the bowels and attention to the condition of the kidneys. He thinks that tea and coffee used habitually and to excess are very deleterious and should be cut off entirely, alcohol likewise. While emptying of the uterus is important, it is not alone sufficient to meet the indications. All reflex irritation originating in the uterus should be removed. As many organs as possible should be aroused to elimination by the most direct and efficient agents. The skin should be excited by a hot moist pack. Calomel in a 5-grain dose, and thorough irrigation of the large intestines, should be employed. He does not favor bleeding, and the weight of opinion is against the use of pilocarpin and large doses of morphin or chloral or potassium bromid. There is, however, evidence that in the absence of bleeding the hypodermic use of veratrum viride will have a good effect, and when bleeding is not practiced, hypodermoclysis and the use of veratrum viride would have the same effect as bleeding, though less rapid. In the period after labor, when the patient has begun to eliminate slightly, but is still restless and semi-delirious, morphin and codein have their uses, and strychnin may be called for if the heart's action is deficient. If the toxemia has not been too long continued, and the patient is young and healthy, the prognosis is not bad, but if it is of long standing and the patient debilitated, or if she is a primapara above the average age, the chances for recovery are bad. The physician should first direct attention to diagnosing and treating toxemia and then if eclampsia occurs, and he can not treat it vigorously in the best manner, he should call in assistance. Delay is dangerous.

85. **Treatment of Eclampsia.**—Edgar formulates the line of treatment for the pre-eclamptic state, as follows: 1. Reduce the amount of nitrogenous food to a minimum. 2. Limit the production and absorption of toxins in the intestines and tissues and assist in their elimination by improving the action of the bowels, the kidneys, the liver, the spleen and the lungs. 3. If necessary, remove the source of trouble by emptying the uterus. The diet he would advise is light and digestible, and he insists on the value of exercising, but when this is not available, oxygen by inhalation is of great utility. The curative treatment is: 1. To control the convulsions, and for these, chloroform is first in his opinion, next veratrum viride and third chloral. 2. Empty the uterus under anesthesia as rapidly as possible without injury, and, lastly, the essential is the elimination of poisons which presumably cause the convulsions, and he would use intestinal catharsis, diuretics, especially glonoin, and veratrum viride and diaphoresis by hot air baths or wet packs. He rejects pilocarpin entirely.

86. **Treatment of Puerperal Eclampsia.**—King treats the convulsions with hydragogue cathartics, the hot bath and wet pack, a mustard plaster used once only, followed by hot poultices of flaxseed or digitalis. When renal congestion has been thus relieved, he uses digitalis and lithium citrate to increase excretion. He places the patient in Sims' position, or in any other that will divert the pressure of the gravid uterus toward the diaphragm and away from the pelvis. To control the convulsions when they have occurred, he uses large doses of veratrum viride and morphin hypodermically, and in anticipation of each convulsion as it begins, a cautious inhalation of chloroform. If the convulsions can be kept in abeyance, and labor proceed without interference, so much the better. Quiet and a dark room are advisable. He thinks that patients sometimes die from suffocation caused by the falling back of the tongue, and the clinching of the tongue by the teeth is sometimes, therefore, a salutary action.

87. **Treatment of Puerperal Eclampsia.**—Reynolds would use pilocarpin in a single dose when diaphoresis can not be obtained without it, but he is afraid of the drug, as he has seen it produce a watery secretion from the lungs rather than the skin. Hot air baths and catharties are used as by the others. He employs sedatives almost as a routine practice, giving bromids in large doses with small amounts of chloral when the urinary suppression is well marked, but using chloral to the physiologic limit, with or without the bromids when convulsions are attended with comparatively little disturbance of the renal functions.

88. **Treatment of Eclampsia.**—Norris follows the same general lines as those before. He has found, however, that the urinary changes may indicate marked alterations without serious toxemia, while the latter may exist with very slight traces in the urine. He prefers chloral to morphin to control the convulsions, and gives a dram of chloral by enema, repeated four or five times in twenty-four hours if necessary. In primigravidæ, full blooded, with strong pulse and cyanotic, he uses venesection until a positive effect has been produced on the pulse. In less sthenic cases he prefers veratrum viride. To aid elimination, the injection of normal salt solution under the mammary gland and into the rectum is of great value, and a hot wet pack will aid the action of the skin. Pilocarpin is contraindicated on account of its tendency to edema of the lungs. Epsom or Rochelle salts are the most efficient eliminators, in his experience.

89. **Prognosis and Treatment of Nephritis.**—Hare says that in acute nephritis the largest part of the treatment must be prophylactic, and if properly carried out grave renal complications can be avoided. Mild alkaline diuretics, free use of pure water and the use of purgatives will do much to prevent these. In addition to these, hydrotherapeutic treatment is also of value. In chronic nephritis we must do what we can to prevent the spread of the disease and relieve annoying or dangerous symptoms, and these can be treated best by a proper regimen and careful diet. He knows of no drugs that distinctly decrease the elimination of albumin in advanced nephritis, and he thinks it doubtful whether attempts in this direction are wise. His experience with the so-called medicinal diaphoretics is not altogether favorable. The condition of the heart should be looked after. Hypodermoclysis is more beneficial in cases of uremia from chronic contracted kidney than from those due to chronic parenchymatous nephritis, and it is least valuable when dropsy is marked. He thinks the contradictory views in regard to the use of morphin are more in appearance than in fact. When it is beneficial it is probable that sedation of the nervous system is called for. In other cases it may be dangerous: each case must be decided for itself.

91.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1228.

96. **Meniere's Disease.**—The case reported is one of vertiginous attacks in a man aged 26 years, apparently robust and plethoric but decidedly nervous. There was no loss of consciousness and no symptoms suggesting epilepsy. Vertigo was occasionally apoplectiform. Tinnitus was absent in the beginning, but later became a marked feature. The examination of the ear did not reveal adequate conditions to account for the symptoms. Hoople reviews this case at length, and attributes the vertigo to high tension of the intralabyrinthine fluids, producing upon the organ of Corti, effects with loss of function like that caused by increased tension in glaucoma, on the rods and cones of the retina. In this case he would consider it due to a reflex neurosis and he gives several reasons supporting this view of the case.

99. **Notes on Turbinals, Tonsils, Etc.**—Baevens comments on nasal and throat conditions met with, urging less prescribing of cocain and advocating conservatism in ear, nose and throat work.

103.—See mention of this paper in THE JOURNAL of Nov. 11, 1899, p. 1229.

104. **Hygiene of Asthmatics.**—The points especially made by Jack are the necessity of proper diet, which should consist of such foods as are most rapidly assimilated and most readily oxygenated, the most available meats being fresh, rare beefsteak or roast. This, however, is not alone sufficient, and he begins feeding with the progressive diet constructed by

Leube, which is as follows: 1. Bouillon, Leube-Rosenthal meat solution; milk; soft-boiled or raw eggs; dry toast or crackers; water or neutral indifferent effervescent (CO_2) water. 2. Boiled calf's brains; boiled sweet-bread—thymus of calf; boiled young chicken; boiled squab; cereal soups; tapioca cooked in milk; boiled calf's feet. 3. Sirloin pulp steak; grilled sirloin steak; scraped raw ham; mashed potatoes, baked with a little milk and butter; a little white bread; cup of hot water with milk and salt. 4. Roast beef; roast chicken; venison, partridge and veal; boiled lean fish; macaroni; bouillon or rice soup; spinach; a little wine. 5. Baked apple; all common foods; finally, salads, vegetables and stewed fruits. This he has clinically found satisfactory. He also advises the free use of acid fruits. The diet of the asthmatic should be varied and abundant—he should make eating his chief aim in life and should eat frequently, much and in variety. Next to dieting he ranks hydrotherapy, and the method he prefers is cold water sponging followed by friction. Sunlight is another essential, and the baths above mentioned should be taken in a well-lighted room, if possible under direct solar rays. He speaks also of the value of altitude in the treatment of asthma, and the necessity of regular habits. He would cut off tobacco absolutely, and would only use alcohol under medical direction during severe asthmatic seizures. Next to altitude, the most important question of location is the presence of malaria, which should be avoided. This explains the advantage of city over country life.

106. **Resuscitation in Newborn Infants.**—The advantages of rhythmic traction of the tongue, according to the method described by Laborde, are insisted on by Fronczak, who reports several cases in which it was used with success. It can be used while the child is in a warm bath, is not fatiguing and is available in every case.

111. **Scholastics and Mystics.**—Ball gives a historic sketch of Cornelius Agrippa, Jerome Cardan, the Rosicrucians and Robert Fludd.

112. **Habit-Disease and Tobacco.**—Gould gives statistics as to the consumption of tobacco and his ideas of its dangers and benefits. As to what is excess, when the odor of tobacco is readily detected in the breath of a smoker five minutes after smoking, when nothing whatever has been done to disguise or neutralize it, he would say that that individual is smoking too much. He also states that the consumption of coffee goes parallel with that of tobacco. The more one smokes, the more coffee one can and usually will drink. In conclusion he lays down a scheme of classification of habitopathics, tentatively offered.

113. **Tendon Suture, Cholecystotomy, Suppuration After Hernia.**—These subjects are considered by Crile, empyema of the gall-bladder leading to the cholecystotomy with recovery, and the hernial suppuration being from a deep suture, the hernia recurring.

114. **Obstipation.**—Martin describes his method of treatment by section of the rectal valves, and briefly mentions three or four out of a large number he has operated on in whom the operation did not succeed. A successful case in a physician is reported at greater length.

115. **Disinfection in Smallpox.**—Hess finds that a 20 per cent. solution of formaldehyde applied to articles infected by smallpox is satisfactory for disinfection, and patients discharged from the detention hospital were required to take a bath in a 2.5 per cent. solution, which did not irritate the skin or produce any unpleasant symptoms. He sums up by saying:

"All materials or fabrics which have in any way come in contact with variola, that can not be moistened with a 20 per cent. solution of formaldehyde without destroying their beauty or usefulness, should be destroyed. Patients, when convalescent from smallpox, should be bathed in a 2½ per cent. solution of formaldehyde, and furnished with new clothes or clothing which has been thoroughly disinfected by that agent."

118.—See THE JOURNAL of January 6, p. 36, ¶ 87.

121.—Ibid., Aug. 19, 1899, p. 472, ¶ 68; December 23, p. 1603, ¶ 74.

133. **Cancer.**—McGannon concludes his address with the following deductions: 1. We are as yet uncertain as to the actual cause of cancer. 2. Our knowledge warrants us in suspecting that it is of parasitic origin, and that it is contagious. 3. At first it is a local growth, curable by complete extirpation, and fatal if not so removed. 4. It is our duty in every case when cancer is possible to suspect it and to bring to bear on it every known aid to its early recognition. 5. When a diagnosis is made at a time favorable for cure by the complete removal of the growth, then we should not only advise, but urge, immediate operation. 6. If the diagnosis is made at a time when the lymphatics are involved and a return is likely, knowing the more or less speedy fatal termination of the case when left to nature, it is our duty to place the facts before the patient, and if operation is accepted under the conditions, to make the attempt to remove the disease by as complete an operation as possible. 7. If the tumor is deemed inoperable, a living death should not be created by abandoning the case, but life should be cheered and hope stimulated by the employment of some of the non-operative methods of treatment mentioned.

135. **Eye Injuries.**—The importance of first attention to injuries of the eye is illustrated by cases reported by Price. The first thing in all cases is to find out the cause, how the injury was inflicted. This is of prime importance, for if there is any danger to be apprehended involving the iris, we should always resort to atropia. If there is injury to the cornea we should use simple salves and washes to cleanse the eye. He gives special cautions against leaving a solution of cocain in the hands of the patient. It should never be employed except by the physician.

140.—See THE JOURNAL of Dec. 23, 1899, p. 1601, ¶ 109.

142.—See abstract above, ¶58.

151. **Prevention of Wound Infection.**—After a rather lengthy discussion of the general subject and its history, Stoner lays down the following rules, which he thinks should be observed in addition to those usually practiced in aseptic surgery: 1. Limitation of the duration of the operation to the very shortest time consistent with safety. 2. Limitation of the number present to those actually needed to assist in the operation. 3. The use of the face mask by those engaged in teaching. 4. The discontinuance of holding the flaps by the exposed hands, by tenacula or forceps. 5. The wearing of sterile rubber gloves by all who come in contact, directly or indirectly, with the wound. 6 Observance of care in making the primary skin incision, and the method of passing needles and sutures through the skin. 7. The use of iodoformized or sublimated sutures.

FOREIGN.

British Medical Journal, Dec. 23, 1899.

Clinical Lecture on Case of Scurvy-Rickets in Boy of Twelve Years. EDMUND OWEN.—After describing a case falling under the head of the scurvy-rickets of Cheadle, or hemorrhagic rickets, Owen discusses the condition and its etiology, the boy's age making the case an exceptional one, as it rarely occurs after 3 years. He remarks that it is not a disease of the poor, but rather of the well-to-do, and he attributes this largely to the prepared foods used for hand-reared infants. The disease is as yet unknown in the west of Ireland, and has only of late years made its appearance in some other parts of the world. It seems to go with civilization.

Harveian Lectures on Surgical Treatment of Tuberculous Diseases. W. WATSON CHEYNE.—This second lecture of Cheyne's takes up tubercular peritonitis and its surgical treatment. He describes the various forms: the miliary, acute and subacute with ascites, the fibrous form and the caseating, giving their symptoms and prognosis. The disease may be either primary—2 to 10 per cent.—or secondary from intra abdominal or other tuberculosis. The common sources of infection are intestinal ulcers, and also the Fallopian tubes. Lung tuberculosis occurs in something like 25 or 50 per cent., while that of the pleura is not uncommon in these cases. It would appear from the statistics of cases operated on that peritoneal tuberculosis is most common in females, while the post mortem statistics show the reverse. We must assume that a larger portion of females come to operation than male, and that the mistaken diagnosis of ovarian or other disease [illegible] was formerly considered absolutely fatal, but of late years better statistics have shown us that it is not [illegible]

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able, even under medical treatment alone. The caseating form is the most fatal. Surgical treatment of tubercular peritonitis was discovered by accident, by the late Spencer Wells, but was first brought definitely forward as a therapeutic measure by Koenig. Cheyne reviews the statistics and shows that in a very large portion of cases permanent cures are affected. He gives a table of Aldibert's cases treated by laparotomy, both in children and adults, which certainly make a favorable showing. Roersch's statistics are also favorable, and even in the caseating cases in children a percentage of recoveries of over 50 is shown (Roersch). The most favorable are those belonging to the miliary type with localized ascites, those with diffuse ascites next; next are the fibrous adhesive forms. The prognosis is more grave with the caseating type, and yet a large proportion of cures is obtained. Even the involved lung seems to sometimes share in the improvement after the operation. The method of operation is described, and it should be followed by medical measures as soon as possible. He does not attempt to fully explain the *rationale* of the cure of tubercular peritonitis by laparotomy, but suggests that an antitoxin is formed in the blood, and that the serum poured out by the operation may have bactericidal properties.

Lancet, Dec. 23, 1899.

Observations Bearing on the Question of the Influence Which Is Exerted by the Agglutinins in the Infected Organism. A. E. WRIGHT and GEORGE LAMB.—The question as to the relation of specific agglutinating substances to immunity is here treated. The authors confine themselves to the consideration of the argument that the agglutinins must be inactive during life, since the microbe continues to cultivate itself long after their appearance in the blood. The question is whether these microbes are, as a matter of fact, cultivating themselves in the presence of agglutinins, and they, therefore, made a number of observations in cases of Malta and typhoid fever, with the serum taken from the heart blood and from the spleen and Peyer's patches, using various dilutions and observing the effect. A marked difference existed between the serum from the spleen, and that from the general circulation, and they conclude that the microbes of these diseases cultivate themselves in the infected organs in mediums relatively poor in agglutinins, the spleen offering such a location. Theorizing on these results, they hold that the bacilli enter into chemical combination with the agglutinins, and thus effect a corresponding reduction in the agglutinative power of the containing medium, and that when the mass effect of the agglutinins is reduced beyond a certain medium, the agglutinative effect is no longer exerted. When the bacteria have been introduced in sufficient quantity to bring this about, they will cultivate themselves perfectly unchecked within the limits to their action. Heat or fever is a direct antagonist to this process, as it indicates an increased afflux of arterial blood and lymph flow, and when this process has gone sufficiently long and the agglutinins and other antibacterial substances are produced in sufficient quantity, they will be present in the blood in sufficient concentration to permit of their entering and abolishing the non-agglutinative envelopes which surround the colonies of germs. This done, the production of the toxins will be arrested and the temperature will fall. If, however, there remains somewhere in the organism, in some stagnant capillary or elsewhere, a colony not thus reached, relapses are liable to occur. The authors also made three observations to test the question as to the non-agglutinative character of the serum in the typhoid spots, by taking the serum from these and from the finger tips and comparing the effects. They found that the serum from the typhoid spots reacted in low dilutions, but rapidly failed to react as the dilution was made greater, while this was not true with the serum taken from the general circulation.

Gangrene Complicated by Glycosuria. CUTHBERT S. WALLACE.—The question of the origin of gangrene with glycosuria is discussed by Wallace, who accounts for the condition by the existence of arterial disease. He reports a number of cases and ends his paper with the following conclusions: 1. There yet remains to be proved that true gangrene—excluding death from acute specific processes which may occur in any subjects at any age—occurs in diabetic patients unaccompanied by such arterial disease as would of itself produce the gangrene. 2. The glycosuria may or may not precede the gangrene but is not usually accompanied by other signs of diabetes. 3. Septic wounds may produce a glycosuria which vanishes when the septic process is removed. 4. Individuals suffering from septic processes are often on the borderland of glycosuria. 5. Gangrene may aggravate a pre-existing glycosuria. 6. The arterial disease is sometimes that which accompanies, or is produced by, chronic renal disease. 7. It has yet to be proved that neuritis can produce any gangrene comparable to that of the so-called diabetic gangrene. 8. The best chance of recovery is offered by removal of the limb near the trunk, and this measure should be undertaken before the patient is reduced by septic absorption. 9. The presence of glycosuria may be an indication, instead of a contraindication, for operation.

Glasgow Medical Journal, December, 1899.

Recurrent Insanity: An Analysis of Relapsed Cases. HUGH KERR.—This paper is an analysis of 450 cases admitted into the Buck's County Asylum during four years, and the author's conclusions are summarized in the following: 1. Recurrent cases form a large proportion of the curable ones admitted into asylums. 2. In these hereditary predisposition to insanity is present in a greater number than in primary cases. 3. Alcoholic or other excess is a frequent factor in the causation of relapses. 4. In cases of early life, menstrual irregularities in the female and masturbation in the male are frequently present. 5. The puerperal period and the periods of gestation and lactation account for a large proportion of female recurrent attacks. 6. The climacteric period in both sexes is a potent predisposing or exciting cause. 7. The majority of the attacks occur in middle life; the first, however, is most frequent in the adolescent period, and is later in males than females. 8. The prevailing forms of insanity are maniacal, melancholic forms being almost restricted to the middle period of life. 9. The tendency is toward recovery, minor relapses being frequent before complete convalescence. 10. The largest proportion of chronic cases is found in second attacks. 11. In many of the cases a certain periodicity is established, the tendency, however, being toward chronic insanity. 12. This class of patients furnished many who are dangerous to themselves and others, a danger which is increased by the impulsive character of their acts, and the frequent absence of marked premonitory symptoms, before the onset of the attack.

O Brazil Medico (Rio), Nov. 22, 1899.

Influence of Pregnancy on Heart Disease. J. CANDIDO.—"Pregnancy is less injurious for a woman with heart disease, in most cases, than severe muscular exertion." Certain precautions must be observed however, Candido continues. Short walks in the open air during the first months are beneficial, always stopping short of fatigue. All fatiguing muscular exertion should be avoided during pregnancy, and a mixed milk diet commenced by the second or third month, ingesting two quarts of milk a day. Small doses of digitalis may be taken at long intervals. Colds and emotions should be avoided. "Rest, milk and a little digitalis is the tripod on which should rest the prophylactic régime of cardiopaths who wish to become mothers."

Semana Medica (Buenos Ayres), Nov. 9, 1899.

Operative Treatment of Total Symblepharon. DEMARIA.—The modification of the usual methods consists in the application of a single large flap from the region of the epitrochlea. The flap was round and larger than the space to be covered, to allow for shrivelling, and the dermic side was applied to the stump of the eyeball—destroyed by quicklime in the observation described. Unfortunately the results are only a trifle better than those secured by Panas and others with a double flap: the culs-de-sac have gradually disappeared and the insertion of an artificial eye is still an impossibility.

Echo Medicale (Lille), Dec. 17, 1899.

Chronic Tuberculous Peritonitis Successfully Treated with the X-Ray. E. AUSSET AND BEDART.—These confrères, both professors at Lille, announced in 1898 the cure of a case of chronic ascitic peritonis with the Roentgen ray, and no recurrence since. Another typical case is now described in which absolutely no other treatment was used, not even superalimentation, the patient, a girl of 4 years, whose abdomen

measured about twenty-four inches in circumference, with several indurated masses, easily palpated and evidences of walled-off collections of fluid. In the course of the sèances with the X-ray, eight to fifteen minutes every other day, the ascitic fluid entirely vanished by the end of the second month; the child has increased nearly seven pounds in weight and the abdomen is now of nearly normal circumference. The tube was placed 25 to 15 cm. from the abdomen.

Revue de Medicine (Paris), Nov. 10, 1899.

Variations in Gastric Sensibility. J. C. ROUX.—The painful spot noticed so often in the epigastrium, with stomach and other troubles, was marked with nitrate of silver on six tuberculous subjects, and a skewer inserted through to the back at this point, after death. It passed through the solar plexus in each case, or to be more exact, through the nervous plexus which surrounds the celiac trunk. Roux noted, in a number of subjects, that the sensibility varies from day to day or hour to hour, and that the causes which increase it are either of peripheral—irritations in the stomach or abdominal viscera—or central origin—depressed condition of the nervous system. The pain can be relieved by general moral and physical rest, especially rest of the stomach, and by anesthesia of the mucous lining of the stomach and cutaneous revulsion—chloroformed water or two teaspoonfuls of a solution of 5 cg. cocain in 150 grams of water; the effect of a sinapism lasts fully an hour. These measures are equally effective whether the pain is of central or peripheral origin. The symptom which dominates all the rest in the painful manifestations of any gastropathy is evidently the degree of hyperesthesia of the gastric mucosa, hence an excess of acid or retention of food are only secondary factors in the pain accompanying gastric disturbances.

Non-Coronary Angina Pectoris. MOREL-LAVALLÉE.—A number of observations carefully analyzed establish that angina pectoris may occur secondarily and independent of any coronary lesion, with the varied and vasospastic aspect conventionally reserved for "false angina." In these observations the genesis of the affection was manifestly complex and required the treatment for true angina as much or more than arterial medication. All were hysterics, but the overexertion of the myocardium may lead to serious consequences, and renders the prognosis grave. This reserve on the part of the physician is absolute in case of definite perinervous lesions, either direct—sclerous mediastinitis—or indirect—irradiating neuralgias of intercostal origin, consecutive to pleurisy—and also in case of a pure hysterical angor. The writer concludes by protesting against the assumption that hysterical are necessarily harmless affections.

Semaine Medicale (Paris), Dec. 20, 1899.

Albuminuria from Standing. J. TEISSIER.—Postural or orthostatic albuminuria is a rare affection, and the prognosis is favorable with appropriate treatment. The albuminuria only occurs when the subject has been standing; ten minutes on the feet may bring it on and forty minutes in bed will abolish it completely. Teissier explains the etiology as threefold: a congestive element, a catarrhal element and a nervous influence. The congestive element is proven by the fact that the intermittent albuminuria exclusively limited to the periods of standing, becomes permanent during the menstrual period. The urine contains urinary mucus and nucleo-albumin, establishing the catarrhal element, and a nervous influence is marked in all the observations on record. This etiology is confirmed by the fine results attained with the combination of bromid, antipyrin and quinin. An exclusive milk diet is detrimental, as it dilates the stomach and tends to produce alimentary albuminuria. The recumbent position two hours after the midday meal is beneficial. Intellectual work should be restricted to the minimum; the subjects are mostly young persons in a stage of rapid development. Mountain air raises the arterial pressure, which is frequently subnormal, and is advantageous, with other tonic measures. The seashore is counterindicated except in very sheltered localities and when there is no evident nervous taint.

Mediastinal Pleurisy. G. DIEULAFOY.—The mediastinal syndrome—dyspnea, attacks of suffocation, dysphagia, pertussis-like coughing, vocal troubles and wheezing—deviations of the trachea or projections into its cavity, noted by direct examination of the organ, existence of pain and dulness in the vicinity of the third and fourth dorsal vertebræ, the dulness contrasting with the normal resonance of the "limitrophic regions," the abrupt debut, form a bundle of proofs sufficient for the affirmation of mediastinal pleurisy, which is confirmed by the appearance of a vomica. Bacteriology is also useful in the diagnosis; the nature of the affection can be determined by Bezançon's agglutinating test, as in most cases it is due to the pneumococcus. Medical therapeutics is impotent; the evacuation of the deep, purulent, encysted tumor is always insufficient and leads to septicemic accidents, usually fatal. The patients should be confided to the surgeon at once. This form of pleurisy is rare. Dieulafoy has encountered it twice, and only three other observations are on record. His experience with interlobar pleurisy (see THE JOURNAL, xxxiii, p. 1417), demonstrates the inestimable benefits to be realized when the practitioner and the surgeon work hand in hand to determine the exact site of the abscesses and evacuate them. He presents his well-known views on appendicitis, and especially the "masked forms," in the third volume of the report of the Hotel Dieu for 1898-99, from which the foregoing is condensed, and enters a new field in his study of hydatid cysts of the spleen, summarized below.

Hydatid Cysts of Spleen. G. DIEULAFOY.—Laparotomy is required for these cysts, which are always beyond the reach of the needle. They may be either ascending or descending. No other tumor of a splenic origin can project to such an extent upward, pushing up the diaphragm to the fifth intercostal space, but the diagnosis of a descending cyst is more difficult. The examination of the blood, the shape of the spleen, the pauses in the development, the more or less rapid growth of the tumor, the feeling of the spleen on palpation should not be neglected in the diagnosing. If the spleen has to be abated, the leucocyte balance, disturbed for the first few months, becomes re-established by the end of this time.

Centralblatt f. Chirurgie (Leipsic), Dec. 16 and 23, 1899.

Formation of Ganglion in Continuity of a Tendon. C. HOFMANN.—In extirpating a ganglion of the dorsum of the foot, it was found located inside the tendon of the peroneus tertius, the second case on record of a ganglion inside of a tendon. No indications of degeneration were noted, and Hofmann inclines to the opinion that degeneration is not an important factor in the evolution of a ganglion. He thinks that a vigorous vascular neo-growth may occur in certain conditions in very spongy connective tissue—not fat tissue—with proliferation of connective tissue, and that degeneration does not occur till later. According to this theory the part played by the vessels in neo-formative processes differs from that which has been hitherto ascribed to them. In this case the patient had fallen over a chair a year before, and had noticed a numbness in the foot and a progressively growing tumor not long after.

Changes in the Internal Organs with Pronounced Scoliosis and Kyphoscoliosis. M. BACHMANN.—In the study of 276 cases of curvature of the spine—197 necropsies—Bachmann found some of the internal organs dislocated—heart, diaphragm, etc.—sometimes deformed—lungs, liver, etc.—and some quite frequently organically altered. It is noticeable that 251 of the 276 cases—91.3 per cent.—presented pathologic alterations in the circulatory apparatus; all but four restricted to the heart and pericardium—41 with valvular affections and 13 with valvular defects. Hypertrophy and dilation of the heart, usually the right, were noted in 182 cases—65.9 per cent.—coinciding with an affection of the heart muscle in 70 cases. Affections of the lung tissue, bronchi and pleura were noted in 274 cases: emphysema, 46.7 per cent.; atelectasia and compression of the lungs, 46.5; bronchitis, 41.6; phthisis, 25.5; pneumonia, 20.6; pleuritic processes, 74.6; pneumonia was the cause of death in 52 out of 197 cases, or 16.2 per cent., primary or secondary fatal heart failure in 59.4 per cent. Curvature of the spine has a marked effect on the psyche and nervous system. Compression of the intercostal nerve explains the frequent intercostal lumbar and abdominal neuralgias which are increased by exercise and incapacitate the subject for work. The monograph is published in full in the *Bibliotheca Medica*, Part D-I, 4, appearing soon after the author's sudden death on the German Deep Sea Expedition. The results of his re-

search impose great caution in surgical intervention in case of scoliosis.

Radical Operation for Inguinal Hernia in Infants. F. KAREWSKI.—Commenting on Fraenkel's operations on sixteen nurslings—Bassini for inguinal hernia—Karewski states that it is not necessary to perform such a complicated operation as the Bassini on infants and children under 3 years. He has been very successful in twenty cases—six incarcerated—treated simply by loosening the serosa of the hernial sac and ligating it as high up as possible in the internal inguinal ring, which ensures an undisturbed and permanent cure. Nearly all were out-patients. Only one child died, and it was moribund when operated on. From five to eight years have elapsed in seven cases.

Can a Gauze Compress Forgotten During a Laparotomy Work Through Into the Intestines Without Causing Serious Symptoms? J. P. ZUM BUSCH.—Rehn reported, at the last German Congress of Surgery, a peculiar case of intestinal occlusion caused by a gauze compress overlooked in the abdomen during a laparotomy. The passage of the compress into the intestines, with comparatively little disturbance seemed very strange to him, and the general impression was that the compress must have been swallowed. Busch relates a similar case: the patient returned after the laparotomy complaining of stomach troubles, abdominal pains but not very severe, vomiting for one day and constipation, but not appearing very sick, good appetite and no hysteria. A shallow movable protuberance was noted below the umbilicus, moving along, after castor-oil had been administered, until evacuated per anum and found to be one of the compresses used in the operating-room, of peculiar shape and size, and almost impossible for the patient to have procured clandestinely. The presence of an exudate noted in the pelvis and its absorption later also confirm the possibility of the spontaneous rupture of a forgotten compress into the intestines.

Two Gastroenterostomies with Plates Cut Out of a Turnip. R. V. BARACZ.—The plates are cut on the same principle as Senn's bone plates, and were recommended by the writer some years ago. In the two new cases reported the plates were applied with the most satisfactory results, the advantages being the rapidity with which the gastro-enterostomy can be done, the approximation of such a large expanse of serous membrane, no danger of infection of the peritoneal cavity, reduction of sutures to the minimum and impossibility of peritonitis from perforation. The half-digested remains of the turnip were evacuated the fifth day in one case. One patient survived the removal of the carcinoma eight months; the other only three.

Alteration in Intestines and Kidneys After Implantation of Ureters in Intestine. J. KALABIN.—Four dogs had one ureter implanted in the intestine; two died of peritonitis and one of uremia; the fourth remained healthy and cheerful until killed thirteen months later. The implanted ureter and intestine were found normal, but the kidney on this side showed a marked, regular, micro-diffuse proliferation of stroma between the uriniferous tubules of the medullary structure, and of the cortical to a slight extent. The epithelium of the Henle loops and of the convoluted tubules and the endothelium of the Malpighian capsules were much swollen, the two first vacuolized, and granulated masses of albumin were found in the lumen. The capsule of the kidney was abnormally thick and formed of solid connective tissue which had grown directly into the cortical substance at one place 3 mm. in diameter. Collapse of the organ was noted at this point as in case of an infarct. The tubules of this region had become merely large holes with no epithelium, some empty, others containing a granular or homogeneous mass. The tufts were in various stages of degeneracy, and patches of round-celled infiltration were also observed at this point.

Dermatologisches Centralblatt (Berlin), December, 1899.

The Growth of the Hair. J. POHL—The hair was cut close to the head in small patches on several persons and the growth carefully measured. The first point noted was that cutting the hair checks its growth for a month, after which it returns to normal. The average rate of growth in a month was 10 to 13.5 mm. in boys 11 to 17 years of age; 15 mm. in the writer, between his twenty-first to twenty-fourth year, and 11 mm. at 60. In five insane patients, the rate of growth was less: 7, 8, 9 and 12 mm. a month. The curious fact was established that each two to four hairs form a group more closely connected than the rest, and that one hair of this group grows more rapidly than the rest for a while and then stops, when its neighbor assumes a more rapid growth for a while and then stops, the next continuing the rate, and so on until the turn falls again to the first hair; also that hairs have a typical length of life, after which they fall out, and this occurs in a group in the same alternate manner as the growth progresses. These phenomena were noted in the hairs on the back of the fingers as well as on the head. The typical length of a hair is twenty to forty inches, and its life two to six years. The highest rate of growth occurs in the middle of this allotted span. Fever checks it.

Profeta's Law. R. BRUEGGEMANN.—This law is generally accepted as applying to the healthy children of syphilitic parents, that they are immune to syphilitic infection. but Profeta only claimed that the healthy children of syphilitic mothers were immune, and some recent observations have shown the fallacy of the assumption that a syphilitic father can confer immunity.

Deutsche Medicinische Wochenschrift (Leipsic), Dec. 7 and 14, 1899.

Calomel As an Antiseptic in Obstetrics and Gynecology. THEOPOLD.—The calomel is carried in a wide-mouthed bottle and, before attempting any palpation or operation, Theopold dips his fingers, after thorough disinfection, into the bottle, working the powder well under the nails and then rubbing the hands and arms with it. Each instrument and each tampon is coated with the calomel in the same way. His obstetric patients seldom require a second visit, and he has not lost a single one out of two hundred patients, since he began using the calomel, although the conditions in much of his country practice are far from favorable.

Clinical Significance of Elimination of Remains of Meat in Feces. A. SCHMIDT.—"Connective tissue that is not most thoroughly cooked is only digested in the stomach, while nuclear substance is only digested by the pancreatic juice, assisted to a slight extent by intestinal putrefactions. The appearance of remains of connective tissue in the feces, visible to the naked eye, indicates a disturbance in the gastric digestion, although it leaves undecided the question of the nature of this disturbance. It is a very sensitive test of the digestive function of the stomach after ingestion of a hundred grams of well-cooked chopped meat. If remains of muscle are perceptible under the same conditions, the intestinal digestion is deranged, but whether it is the secreting or absorbing function that is out of order can not be determined by this means."

Case of Diphtheria with Erythema and Joint Swellings. A. SCHUNTZE.—In the observation reported, no serum had been given, and yet the symptoms of cutaneous erythema and swelling of the joints appeared, which have usually been attributed to serum treatment in other observations.

Muenchener Medicinische Wochenschrift, Dec. 19, 1899.

Tests of Disinfection of Hands. PAUL AND SARWEY.—The first report of tests made with the sterile box described in THE JOURNAL, January 6, p. 39, shows that it is impossible to render the hands completely sterile with Ahlfeld's hot water-alcohol method of disinfection. Ehrig and Winternitz were the only ones of the twelve persons tested who had even one hand completely sterile after the most thorough disinfection by this method; four had from 20 to 80 germs develop from a final scraping with the curette.

Value of Urine-Gelatin Medium for Diagnosis of Typhus. E. UNGER and E. PORTNER.—The writers proclaim this method, as a distinct process in bacteriology. (See THE JOURNAL xxxiii, p. 1504.) Hitherto the detection of typhus bacilli in the feces has been extremely difficult, and required at least four to five days, but it can now be accomplished in two or three, and with more certainty than ever before. They found the bacilli by the second day of the disease, and until the eighth to tenth after subsidence of the fever, reappearing when a relapse was imminent. The bacilli exceptionally persisted as late as five weeks after subsidence of the fever, as in a case that left the hospital entirely cured, a warning that the excreta of convalescents may still be dangerous for others. No typhus colonies could be derived from blood taken from patches of roseola,

but the gelatin-urine medium proved exceptionally favorable for the development of cultures from the urine, which grew with an abundance of tendrils seldom to be obtained in cultures from the feces, although frequently there were no indications of any renal affection. The following three points the writers assert must be borne in mind: 1. If no colonies with tendrils develop after several attempts, the case is evidently not typhus. 2. Numerous colonies with long tendrils indicate typhus. 3. Colonies with short tendrils speak for typhus if the clinical signs of the affection are evident, but not otherwise. Certainty can only be attained by further bacteriologic tests or the usual chemical tests to determine the identity of the cultures, which robs the method of much of its advantage as a means of early diagnosis.

Grece Medicale (Syra), November, 1899.

Traumatic Incontinence of Urine Cured by Suprapubic Cystotomy. A. P. PETRIDIS.—A boy of 12 had suffered from constant incontinence of urine for seven years, since a lateral cystotomy to remove a stone from the bladder. The wound had healed normally. After the failure of the usual measures to cure the enuresis the bladder was opened through a hypogastric incision. The vesical mucosa was found slightly congested and the wall thicker than normal, and contracted. The organ was closed and in a few days had healed; the incontinence ceased. There has been no recurrence during the fourteen months since.

Spontaneous Recovery From Puerperal Septicopyemia with Multiple Cutaneous Abscesses. ARMACOLLAS.—A woman with evidences of intense puerperal infection, appearing three days after delivery, refused antiseptic local treatment as she and her family were extremely ignorant and superstitious, and the physician withdrew from the case after giving a little quinin and bismuth. Summoned later, he found the patient with high fever and numerous cutaneous abscesses and gangrenous decubitus, but no purulent localization on the internal organs. The multiple abscesses evacuated their contents and healed, and the patient recovered completely, the spontaneous abscesses having evidently served to eliminate the infectious germs.

Gazzetta Degli Ospedale (Milan), Dec. 17, 1899.

Relations Between Tuberculosis and Nervous Diseases. G. ROSSI.—A thousand patients were examined at De Renzi's clinic: 489 affected with tuberculosis, generally pulmonary, and 511 with various nervous diseases. Study of their antecedents and present status reveals an unmistakable connection between tuberculosis and nervous diseases. In 197 or 25.5 per cent., the tuberculosis coincides with some pronounced nervous affection and they influence each other in other cases, succeeding or alternating in the evolution of the family, "countersigning its degeneration." Neuropathic antecedents were noted in 28.6 per cent. of the cases of tuberculosis. Tuberculous antecedents were found in 22.6 per cent. of the cases of nervous disease. Rossi believes that the key to the relations between tuberculosis and neuropathy is to be sought in vasomotor disturbances in the nutrition induced in the organs by the perversion of the nervous system, thus slowly predisposing the organism to tubercular infection. The great influence of the vagus on the nutrition and functions of the lungs, and on infections, explains this connection. He further announces that the antagonism hitherto accepted between cerebral hemorrhage and tuberculosis does not exist in reality, as he found cerebral apoplexy in the families of 9 per cent. of the tuberculous subjects, and in 31.7 per cent. of the tuberculous subjects with neuropathic antecedents.

Medicinal Intoxication with Belladonna. A. CALANDRA.—A woman of sedentary habits and evidences of coprostasis, took a pill containing 2 cg. of dry extract of belladonna and 2.5 cg. of podophyllin. Symptoms of intoxication appeared in fifteen minutes, general prostration, etc., and in the course of a few hours violent diarrhea and syncope. Normal conditions were not restored for three or four days.

St. Petersburger Medicinische Woch., Dec. 9, 1899.

Vascular Lesions and Intestinal Neuroses. R. V. ENGELHARDT.—The writer is in the habit of asking all his patients suspected of a nervous tendency, whether they have had migraine, vertigo or palpitation of the heart without appreciable cause, or suffer from cold hands or feet or from facile sweat secretion, whether there is a tendency to chilblains and whether these phenomena are affected by menstruation. He comments on the astonishing frequency with which these questions are answered in the affirmative, and expresses his conviction that the phenomena are all directly dependent on vasomotor disturbances in the circulation, which hypothesis also explains the symptoms of a vasomotor nature so frequently noted in the course of intestinal neuroses. Both the vasomotor disturbances and the intestinal troubles are symptoms of a disturbed circulation. Morbus Basedowii and migraine seem to stand in the closest relation to the vascular system, and each may be accompanied by a watery morning diarrhea. These intestinal disturbances may also accompany general anemia and neurasthenia, or appear alone, and he attributes them to a vasomotor origin, among other reasons, on account of the alternate appearance of pure vasomotor disturbances and of intestinal phenomena in individuals or in members of the same family. He describes a family of seven brothers and sisters in whom, coincident with a general nervous predisposition, possibly dependent on it, certain objective symptoms manifest themselves in various parts of the organism: headache, constipation, alternating with enteritis membranacea in one, ameliorated by suggestion and pregnancy; the second suffered from cold, cyanotic hands and feet, chilblains; the third from migraine; the fourth from hyperidrosis, cold extremities, headaches; another from migraine, mucous morning diarrhea, palpitations; the father from hyperidrosis from youth, and now muscular atrophy of a portion of the left arm, probably anterior poliomyelitis on an arteriosclerotic foundation; the mother has migraine and angina pectoris, with indications of coronary sclerosis. The one feature common to all these various clinical pictures is a disturbance in the circulation. "Further study of neurasthenia and hysteria will confirm more and more the existence of this connection with disturbances in the circulation." Vasomotor disturbances are evident in the cardialgia of anemic-neurasthenic subjects: the pulse becomes small and irregular, the extremities cold, the abdominal aorta tense; it pulsates violently and is painful on pressure. Cardialgia in elderly persons with generalized arteriosclerosis presents quite a different picture. It usually appears at night, the subjects are uncomfortable reclining and prefer to stand, the lips and extremities become blue and cold. Diuretin is frequently effective in these cases. Anemic-nervous patients often complain of meteorism and a tendency to morning diarrhea, especially pronounced just before the menses and much alleviated by menstruation and pregnancy. Meteorism is a frequent symptom of arteriosclerosis. It may cause the greater discomfort on account of the limitation to the excursions of the diaphragm and the consequent pressure or dislocation of the heart, but objectively the symptoms suggest that the organic alterations in the abdominal vessels are the direct cause. This supposition is confirmed by the efficacy of potassium iodid and caffein in such cases. Adenot states that the mesenterial are the arteries most frequently affected with arterio-sclerosis. This condition may disturb the circulation in the abdominal region, and entail meteorism and mucous diarrhea, such as occur in case of torsion of an intestinal loop and its local venous stagnation, which induces local meteorism and a profuse secretion from the intestine. The same occurs on a larger scale in the conditions known as plethora abdominalis. "This parallelism between the symptoms of an intestinal neurosis and similar disturbances in notorious arterio-sclerosis has long impressed me. In both cases the alterations in the vessels, whether dependent on merely functional or organic disturbances in the circulation, are the direct cause for the manifestation of the phenomena, and these spontaneously group themselves into local intestinal or more remote objective indications of a disturbed circulation." He reviews the various observations of vasomotor neuroses and coincident [illegible] and establishes as the principle for the [illegible] and maintenance of a normal rhythm in the [illegible]

Voyenno-Medizinski Journal (St. Petersburg), Nov. 7, 1899.

Operative Treatment of Paralysis from Pressure in Tuberculosis Spondylitis. [illegible] treatment fails, laminect[illegible] harmless." The patient [illegible]

the intervention in complete narcosis. Abrupt manipulation of the cord must be avoided as liable to induce shock. In case of tuberculosis of the spine in the form of sclerotic pachymeningitis, and tuberculosis of the processes, the laminectomy is in fact a radical operation. But even in other cases when improvement is all that can be expected, it is of great efficacy. It is counterindicated in extensive diffuse affections of the bones and tuberculosis of the internal organs. Sobolewski bases his article on one personal and 147 observations in literature. The operation has been repeated two and even three times in a few cases. Relapses are rare. (See THE JOURNAL, January 6, p. 16.)

Hernia of the Lung. P. ORLOW.—A tumor the size of a walnut appeared in the suprasternal region of the neck on one side of the sternocleido mastoidei, in the course of a very difficult labor, simultaneously with an inguinal hernia. The tumor has not grown during the thirty years since, but increases to the size of a hen's egg during coughing, and is drawn in during inspiration and protrudes with expiration. It collapses at the slightest palpation. Potain reported a similar observation last year; intervention is evidently unnecessary in such cases.

Societies.

Clinton County Medical Society.—The recent meeting of this Society, held in Clinton, Iowa, resulted in the election of the following officers: president, Geo. Hofstetter; vice-president, D. S. Fairchild, Jr.; secretary, E. L. Martindale; librarian, J. C. Langan.

Hancock County Medical Society.—The following are the newly elected officers of this Society, which met at Findlay, Ohio, Dec. 28, 1899: president, T. S. Wilson; vice-president, N. L. McLachlan; secretary, Don C. Hughes; assistant secretary, M. S. Williamson.

Austin District Medical Society.—The fourth quarterly session of this Society was held at Austin, Texas, late in December, and the following officers elected: president, S. E. Hudson; first vice-president, A. Nowlin; secretary and treasurer, W. A. Harper.

Philadelphia Obstetrical Society.—At the last stated meeting of this society the following named were elected for the ensuing term: president, John C. DaCosta; vice-presidents, John M. Fisher and George M. Boyd; secretary, Frank W. Talley; treasurer, John G. Clark.

Wapello County Medical Society.—At the regular January meeting, the following officers were elected for the ensuing year: president, George C. Pope; vice-president, F. W. Mills; secretary and treasurer, C. R. Russell. The Society will hold its annual banquet January 18, at Ottumwa, Iowa.

Seneca County Medical Society.—This Society was organized at Tiffin, Ohio, last month, by electing the following officers: president, C. T. Benner; vice-president, Robert Swigart; secretary, Georgia Finley; treasurer, Wm. H. Focht. Meetings will be the third Thursday in each month.

Schuylkill County Medical Society.—The annual session of this Society was held at Pottsville, Pa., January 2, and the following officers elected: president, W. C. J. Smith, St. Clair; vice-president, A. L. Gillars, Pottsville; treasurer, D. Taggart, Frackville; secretary, G. W. Farquhar, Pottsville, censor, A. P. Carr, St. Clair.

College of Physicians of Philadelphia.—The following officers were elected on January 3: president, W. W. Keen; vice-president, Horatio C. Wood; censors, Alfred Stillé, William F. Norris, Richard A. Cleeman and Arthur V. Meigs; secretary, Thomas R. Neilson; treasurer, Richard H. Harte; honorary librarian, Frederick P. Henry; councillors, DeForest Willard, Robert G. LeConte.

N. Y. Neurological Society.—At the annual meeting of this Society, held in New York City, the 2d inst., the following officers were elected for 1900: president, Frederick Peterson; first vice-president, Joseph Collins; second vice-president, L. Stieglitz; recording secretary, Pearce Bailey; corresponding secretary, Lewis A. Conner; treasurer, Graeme M. Hammond.

Washington (D. C.) Obstetrical and Gynecological Society.—At the recent meetings of the Society the following papers were presented: Dr. Stone, "Surgical and Mechanical Treatment of Dysmenorrhea;" Dr. Vanrensselaer, "Surgery of Typhoid Fever;" Dr. Sprigg, "External Palpation vs. Vaginal Examination in Normal Labor."

Washington (D. C.) Microscopical Society.—At its annual meeting, this Society elected the following officers: president, Paul Partsch; vice-president, Rupert Nortan; recording secretary, Professor Mooers; treasurer, Robert Reyburn; curator, Prof. Wm. H. Seaman. At the close of the election, Dr. Seaman read a paper on "Medicine Droppers and the Measurement of Drops."

Washington (D. C.) Medical Society.—At the recent meetings of this Society, the following papers were presented: Dr. Foster, "Common Features in Neurasthenia and Insanity: Their Common Bases and Treatment;" Dr. Arwine, "Fungous Foot of India;" Dr. Burnett, "A Series of Cases of Suppurative Inflammation of the Temporal Bone;" Dr. Belt, "Eye and Ear Work in the London Hospitals;" Dr. Johnson, "A Case of Addison's Disease Treated and Improved by Suprarenal Extract;" Dr. Jung, "A Contribution to the Diagnosis of Diverticula in the Lower Part of the Esophagus."

Washington (D. C.) Academy of Sciences.—At the annual meeting of the Academy, held the 20th ult., Dr. S. C. Busey delivered his annual address, taking for his subject "American Medical Ethics." This paper will appear in THE JOURNAL. He urged on the profession the importance of strict adherence to the ethics of the AMERICAN MEDICAL ASSOCIATION, and deprecated the tendency of the profession to recognize and endorse by certificate or otherwise proprietary medicines and remedies. He also disparaged the holding, by physicians, of patents for medical contrivances and instruments.

N. Y. County Medical Association.—At the next meeting of this Association, which will be held the evening of January 15, Dr. Thomas H. Manley will report the following clinical cases: "Senile Gangrene of Foot;" "Gangrenous Perforature of Sigmoid Flexure;" Mammoth Omental Hernia." The principal paper of the evening will be by Dr. L. F. Garrigues, entitled, "A New Method for Retroperitoneal Drainage of Pyosalpinx, with a Report of Five Cases." There will be a symposium on "Strangulated Hernia." Dr. Parker Syms will open the subject, with "Some Practical Remarks Concerning Its Diagnosis and Proper Treatment;" Dr. H. M. Silver will speak on "Diagnosis of Strangulated Hernia;" Dr. John F. Erdman on "Treatment of Strangulated Hernia;" Dr. Irving Haynes on "Radical Cure in Operations for Strangulated Hernia;" Dr. W. B. DeGarmo on "The Mechanical Treatment; Prophylactic and Post-Operative," and Dr. W. B. Coley on "Strangulated Hernia in Children."

Western Texas Medical Association.—At the meeting held the 28th ult., at San Antonio, Texas, this Association passed the following concerning the antivivisection bill now before Congress. The bill is printed in full on another page, this week.

Inasmuch as a bill has been introduced into the United States Senate for the third time, by Senator Gallinger of New Hampshire, for the further prevention of cruelty to animals in the District of Columbia, and known as Senate bill No. 31, the object of which, according to its advocates, is twofold: 1, to prohibit vivisection, and 2, to aid the passage of similar bills in all the state legislatures.

Resolved, That it is our duty as a body of scientific men to do all in our power to defeat this insidious and inhuman effort to restrain scientific research, to stop the progress of preventive medicine, and to perpetuate ignorance and disease and suffering among animals and men.

Resolved, That this Association exert its utmost influence individually and collectively with the Senators and Representatives in Congress from this state and with the members of the Senate committee in charge of the bill to defeat the same, and that a copy of these resolutions be forwarded to each one of these gentlemen respectively.

Resolved, That a petition be circulated among the citizens of San Antonio in order to arouse as vigorous a protest in this infamous and mi-guided scheme as possible.

Chicago Academy of Medicine.

Nov. 10, 1899.

(*Continued from p. 45.*)

SALIVARY FISTULA.

DR. G. FRANK LYDSTON—The first case I wish to report is one of salivary fistula, cited for the purpose of outlining a rather novel procedure for the operative cure of the fistula. The patient was a man, 25 years of age, who had been under treatment for syphilis, and was referred to me for what was believed to be a gumma in the region of the parotid gland. On examination the tumor proved to be a salivary cyst. I proceeded to extirpate it, and on the second day after operation I discovered, much to my disgust, that the cyst communicated, in all probability, with Steno's duct. I had substituted a salivary fistula for the tumor. Some three months later the patient, having stopped treatment for two or three weeks after the operation, returned to me. Cauterization and repeated suturing had been done by a surgeon who had endeavored to heal the fistula. I suggested a novel operation, which consisted of an attempt to re-establish the continuity between the bottom of the fistula and the normal opening of Steno's duct. After freshening the edges of the fistula, I passed a large, pointed, straight probe, armed with strong silk obliquely through the cheek and made it emerge from the normal opening of Steno's duct inside of the cheek. I fastened a small soft catheter to the ligature and drew it through the mouth. On the end of the catheter I fastened a single strand of silver wire which was drawn through the distal extremity of the catheter in such a manner as not to occlude its opening, thus leaving its lumen free. I countersunk the catheter to the depth of half an inch in the tissues of the cheek, and fastened the wire to a small lead plate, after stitching the fistula with catgut sutures. Beneath the plate was applied a dressing of idoform gauze. The free end of the catheter was made to emerge from the mouth. From that time on saliva flowed freely from the mouth. At the end of ten days the wire was cut and the catheter removed. The fistula was found to be absolutely healed. No further trouble from the fistula was experienced. Whether the probe had traversed Steno's duct, I can not say, but more likely I made a new fistula through the cheek, emerging in the mouth, and simply causing the fistula to open as nearly as possible at the normal opening of Steno's duct.

I do not know that this particular operation has been performed before; I have never seen it mentioned in literature. I do not claim that it is applicable to all forms of salivary fistula, but it proved a novel and successful procedure in this case. It is certainly applicable to the simple varieties of parotid fistula. How applicable it is to other forms of salivary fistula, remains to be seen. The last I heard from the case was about a year ago, two years after the operation. The patient was then in as good condition as at the time of my last examination—apparently perfectly cured.

TOTAL RESECTION OF SPERMATIC CORDS VS. THE OPERATIONS OF RESECTION OF THE VAS DEFERENS AND CASTRATION FOR PROSTATIC HYPERTROPHY.

DR. G. FRANK LYDSTON presented this subject. He said in part: I find that one of the great obstacles to castration is that even in the limited number of cases in which the operation is applicable, i. e., where the sexual function is not a paramount consideration and of no physiologic importance, the old men have a strong prejudice against the operation. Most of them believe that they are too virile to allow their testicles to be removed, a matter which they look upon with considerable pride. Furthermore, a patient who may consider his virility a thing of the past, does not like the idea of returning home minus these ornaments. He does not like to have remarks made to the effect that he has lost his testicles. As to resection of the vas deferens, the correlation of the nerve-supply of the vas deferens taken alone, and the prostate, is not quite so important as is claimed by those who advocate this operation as a substitute for castration. Certainly, the operation does not give as good results as castration. This has been my own experience and that of others who have practiced it. Total resection of the spermatic cords is quite as radical, so far as the result on the prostate is concerned, as castration. I do not believe the removal of the testis itself cuts much of a figure, as regards the effect on the prostate. These cases in which removal of the vas deferens has accomplished the desired results bear me out in this assertion. The removal of the testicle affords added traumatism, making the operation a much more serious one. It is far easier to do total resection of the spermatic cords under local anesthesia than it is to perform castration. I am inclined to believe that some of the psychic symptoms that develop after castration in old men are due to the impression made on the mind of the patient by the removal of the testicles *per se*, rather than to the psychophysical effect of their absence. Furthermore, in some cases in which there is delirium and mania following castration, there is in addition to the psychic element a certain degree of uremic disturbance. The necessity of a more prolonged operation and more pronounced shock incidental to castration would perhaps explain the difference between these results and those obtained in mere resection of the vas deferens alone. The same would hold true as regards the results obtained from castration and total resection of the cords. In connection with this operation, like the operation of castration and resection of the vas deferens, the immediate results are not always supported very strongly by the remote results. A great many cases have been reported too soon after operations: they have not been followed carefully enough. For the time being, these patients have improved, but later on have relapsed into the same condition as before operation. The observations I have made on this point militate against the enthusiasm that has been manifested in certain quarters with reference to operations upon the spermatic cords and castration in the treatment of prostatic hypertrophy. This assertion is particularly pertinent in the case in point, because the individual was one in whom, *a priori*, we would not expect to obtain any marked results. The man was 65 years of age, with general atheroma, marked arcus senilis, and his radials were like pipe-stems, or, worse than that, as large as lead pencils. He was considerably emaciated. He was averse to having a radical operation performed. I suspected there might be a cancerous element in his case, although I was not able to detect anything of that nature. He had a markedly vesiculated bladder, with those peculiar columns found in cases of general atheroma. It was one of those typical cases of general atheroma involving the bladder and prostate, which Guyon describes, showing the condition which he believes to be the foundation of prostatic hypertrophy in all cases. The prostate proper was rather succulent. There were evidences of recent hyperplasia and considerable tenderness. I believed there was a possible chance of relieving the prostatic obstruction by operation.

Operation was done under cocain, less than 1 gr. being administered. Both cords were resected, one after the other, by an incision over the external ring, the cord being drawn out in the usual way. In these operations I make the resection high, over the inguinal ring, rather than down in the scrotal region, believing that the results are better. There were no evidences of disturbance from cocain except a little tingling of the fingers during the operation. By resecting first on one side, and then on the other, several days later the operator can, if he wishes, do the operation without any particular degree of shock. Then, too, if there be symptoms of intolerance of cocain, the second operation can be postponed until some future time. I rarely use stronger than 1 per cent. cocain, with 1 per cent. carbolic acid and 10 per cent. antipyrin solution. By resorting to local anesthesia, we avoid the manifest dangers of general anesthesia, and particularly nephritis, a condition that is very likely to result in old men from the influence of the anesthetic on the kidneys. I am satisfied that patients frequently die two or three weeks after operations, as a result of the effects of the anesthetic on the kidneys. I called attention to this point several years since. A practical point with reference to the permanency of the results is this: My patient had been compelled to rely on the catheter for some four or five months. He had not passed a drop of urine naturally for a year prior to that time, only being able to pass a few drops at a time. The second night after operation he passed [illegible] at one micturition. On the third day he passed [illegible]

seven or eight ounces; on the fifth day he was passing over fifty ounces per diem in a natural way. I congratulated myself that I had effected a very brilliant cure. I found, however, at the end of three weeks, when he was ready to go home, he was passing urine every one or two hours in apparently normal quantities, this being due to an overdistended condition of the bladder. My assistant had not watched that particular point carefully for probably twenty-four or forty-eight hours, and it would naturally have deceived anyone who had not had this experience before. The prostate was reduced considerably in size, and on the right side, which had been especially prominent, it had shrunken to practically its normal dimensions. I should say that there was 50 per cent. reduction on the other side. I do not believe I cured this patient by the operation, but I feel that it exerted an important influence on his prostate. How much rest had to do with it, I am unable to say, but he had not obtained such results from the long rest in bed that his general condition had necessitated from time to time.

I submit this modification of the usual operation as being better from a cosmetic standpoint, better from the standpoint of its psychic impression on the patient, and its relative simplicity than the operation of castration, and the ordinary operation of resection of the vas deferens alone.

DR. JAMES G. KIERNAN—With reference to one point in connection with the last case reported by Dr. Lydston, as regards operation for prostatic hypertrophy, it seems strange that he should have ignored a nutritional function of the testicle which corresponds closely to that of the ovary. At the 1897 International Medical Congress, Metchnikoff reported a number of experiments which showed that many antitoxins were the product of the ovary and the testicle, and these should be considered as to that function apart from the question of reproduction. It is quite well established that the ovary has functions connected with general nutrition apart from reproduction. I do not think I state the case too strongly when I say that the trend of gynecology is to preserve the ovary for this particular function apart from its reproductive. Granting the value of the removal of the testicles on account of their influence on prostatic disorders, and admitting the untoward secondary effects which result from this, if the same results be obtained by the procedure which Dr. Lydston has advocated, then it is peculiarly valuable.

There is another point apart from the local influence of the operation which deserves consideration, and that is the influence on the general system, which J. William White, of Philadelphia, has well called the constitutional influence of the operation per se. If the constitutional influence of the operation per se, which is not a purely psychic one, can be produced by the operation which Dr. Lydston has advocated it would seem desirable that the operation should be undertaken in preference to castration, which certainly does produce psychic disturbances in old men, just as oöphorectomy after the menopause does in women.

DR. WILLIAM L. BAUM—Inasmuch as most cases of prostatic enlargement present themselves for treatment at a time when the condition is far advanced, it is still a question whether the procedures advocated by Dr. Lydston, or prostatectomy, or testectomy will yield sufficiently good results to justify their use. The aggravated symptoms are mostly due, not so much to the enlargement of the prostate itself as to a secondary congestive condition. The operation for the relief of enlarged prostate has yet to be found.

DR. EMIL RIES—I feel very much as Dr. Baum does in regard to the treatment of diseases of the prostate, which are generally comprised under the name of prostatic hypertrophy. At present operative measures for the relief of this condition are highly unsatisfactory. We have to differentiate between treatment which is directed to the prostate itself and the treatment of some obscure, unproven, never satisfactorily explained nervous or other relation between other organs and the prostate. The latter refers to operations on the testicles and vas deferens. These operations have been founded on an assumed analogy between the relations of testicle and prostate and those of the ovary and a fibroid of the uterus. If this analogy is the only basis on which we have to build our hope in the treatment of prostatic hypertrophy, the sooner we get rid of that kind of treatment, the better. The experience of gynecologists, which has extended over more than one decade, has proven that the removal of the ovaries in the treatment of fibroids is a failure. Not only does the expected atrophy of the fibroid, after the removal of the ovaries, fail to take place in a large number of cases, but it has been observed in a comparatively large number of instances that after the natural menopause or the artificial operative extinction of the function of the ovaries, the fibroid has grown more than ever before.

As far as the relation between the ovary and the fibroid is concerned, it is more than probable that the effect of the extirpation of the ovary on the fibroid is not that of a relation of functions but simply the abolition of the blood-current from the ovarian arteries to the fibroid which in the removal of the ovaries is brought about by tying the blood-vessels which feed the upper half of the fibroid uterus. This is substantiated by the parallel method of tying the uterine arteries alone, whereby the lower half of the blood-supply is shut off from the fibroid, an operation which sometimes results in the diminution in size of the fibroid.

But to return to the prostate. There is assumed a functional relation between testicle and prostate, which is not explained or well established.

Let us consider what has been observed after operations for the removal of the testicles or of the vas deferens. The initial results reported after the removal of the testicles or resection of the vas deferens were highly promising. Later on, however, we have had reports of a condition of things not by any means as promising as the first reports. What is the reason? The first reports have all been lacking in one esssential point, namely, the patients have not been observed long enough after the operations. If a patient improves after an operation, it is no guarantee that he will be so much better a year after it. Dr. Lydston reports a case in which he says the patient was apparently very much improved, but in reality, not cured, as observation some time after the operation showed. The frankness of Dr. Lydston is refreshing, and the profession would be much better off if it had the unfavorable results of other cases rather than those insufficient reports characterized as beautiful results, and which are so unsatisfactory to scientific work. No doubt in a great many instances unfavorable results have not been reported at all. I am not sure whether the junctional or nervous relation between the testicle, vas deferens and prostatic hypertrophy exists. There are, however, possibilities of direct mechanical relations between them which I have not seen considered in text-books, and which seem to me to be worthy of consideration. I have examined a number of prostates microscopically, with especial reference to the corelation between the vas deferens and prostatic hypertrophy. It is very possible that in a number of cases a fibroid or adenomatous growth in the prostate, which constitutes what we call prostatic hypertrophy has a constricting or compressing influence on the vas deferens. As long as there is any function in the testicle there is secretion from the testicle, and if this secretion, in consequence of an obstructing tumor, accumulates in the prostatic part of the vas deferens, it must produce an additional enlargement of the prostate. If we cut off the supply from the testicle by resecting the vas deferens, much of the prostatic obstruction will be relieved. This is simply a mechanical principle, and one which may be of great importance, as many of the prostates, of which I can show you microscopic specimens, are filled with adenomatous growths, and it is highly probable that they produce a constricting influence on the vas deferens. I have also seen fibromatous growths springing from the fibrous and muscular sheath of the prostatic portion of the vas deferens which produce stenosis of the vas. If we cut off the supply from the testicle, the stenosis will exert little or no influence, and the prostate will collapse to some extent. However this theory will have to be further established.

If permitted, I wish to say a few words in regard to the treatment of the prostate itself, and refer to prostatectomy and prostatotomy. The latter, in cases of so-called prostatic hypertrophy, may be of great benefit, especially if the so-called hypertrophy be in the nature of an adenomatous growth, with the formation of cysts in the prostate. If we cut into the prostate, either by making a perineal section, or by doing a Bottini,

we may empty the cysts, and cause the cyst walls to collapse. In prostatectomy we have an operation which reminds me very much, as far as its results are concerned, of myomectomy for fibroid tumors of the uterus. The resuts of prostatectomy are just as bad now as they formerly were in the early operations of myomectomy because the tumors were extirpated at a stage when the cases were extremely unfavorable. The patient with prostatic hypertrophy consults us after he has lived a catheter life for a shorter or longer time, after his bladder has become infected, after the urethral sphincters are more or less impaired, after hydro- or pyo-ureter or nephrosis perhaps has formed, and then we have a septic bladder to deal with, as well perhaps as an unfavorable condition of the ureters and kidneys. Under such circumstances we need not be surprised if operative measures of treatment are followed by failure. We have to operate through a suprapubic incision in order to remove the median lobe, and we enucleate what tumors we can from the prostate. But we are operating in a septic field, with the ureteral sphincter greatly impaired or suppressed, so that the septic field of operation is in direct communication with the most essential organ, the kidney, and naturally such an operation is attended with no small degree of danger. The same thing held good in the early days of myomectomy. Patients came to us exsanguinated, pale, anemic, carried to the edge of the grave, so to speak, by the anemia and by the sepsis which was caused by the sloughing of tumors. If these patients were operated on, they died, so that myomectomy was considered a highly dangerous operative procedure. It is not so now, because we operate on them much earlier. Now we not only protect the patient from the dangers of a severe operation, but we often save the uterus, and there is no good reason, it seems to me, why the same good results should not be accomplished in prostatic work.

One great hope in the future lies largely in the work that has been done on the ureters, and by this means we may be able to secure much more favorable results in operating on patients with prostatic hypertrophy. It may be possible in the future to completely switch off the urine from the bladder, and get it through the ureters into some other organ which is provided with a sphincter, allowing the patient to live in comfort without infection taking place. The operation of implanting the ureters into the rectum, as it has been tried repeatedly, is fraught with the danger of infecting the kidneys; an operation which we could not at this time recommend to a patient with prostatic hypertrophy. The suprapubic cystostomy, even with the addition of Witzel's technique, is rarely satisfactory to the patient.

DR. REUBEN PETERSON—Dr. Ries has spoken of transplantation of the ureters into the rectum as a possibility in the treatment of enlarged prostate. For some months I have been performing experiments on dogs, having no particular object in view except to see whether the kidneys would be infected if the ureters were implanted into the rectum. I quite agree with what Dr. Ries has said relative to the present status of this operation. It is unjustifiable. It is impossible to insert a small tube, like the ureter, into a large tube, like the rectum, without obtaining a certain amount of stricture of the ureter, and if this is the result, then infection will necessarily follow. That has been the result in the dogs that I have been able to save by operative means. If infection does not take place it is a chance, and not due to any good surgery on the part of the operator. If an operation could be devised whereby a lateral anastomosis between the ureter and the rectum could be made, precluding any possibility of stricture of the ureter with subsequent dilation and hydronephrosis, infection of the kidney might not necessarily follow. My experiments have shown that where the greatest amount of stricture exists, there we have the largest amount of infection of the kidney. My experimental work leads me to the conclusion that the lateral anastomosis I have mentioned is a surgical possibility, and at some future time I shall report the condition of the kidneys whose ureters have been united to the rectum by this method.

As far as the sphincter control of the urine in the rectum goes, the operations have been a perfect success. There is no irritation of the rectum, the dog emptying his at certain intervals of anywhere from three to six hours. However, the possibilities of infection of the ureters and kidneys following transplantation of the former into the rectum are so great that the operation for removal of the prostate is at the present time, with our present knowledge, far preferable.

I do not agree with what Dr. Baum has said regarding patients not being cured by the removal of the prostate. I recall one case in which a prostate was removed by Dr. Van Hook, and a perfect cure resulted. For three years after the operation the man suffered much pain, although the bladder symptoms were improved. Then the pain suddenly ceased and he has remained perfectly well ever since although the operation was done five years ago. The median lobe was removed by the combined method from above and below. I have always attributed the pain which persisted for such a long period after the operation to an unhealed ulcer of the base of the bladder.

I was particularly impressed with what Dr. Ries said in regard to the possibility of obtaining good results from the early removal of the prostate. Some time ago I had the pleasure of witnessing Dr. Ries operate for the removal of the prostate. There was but little hemorrhage, and I was struck with the comparative ease with which the prostate was removed. If the operation can be perfected, a great many cases can be cured in that way.

Regarding just one other point, brought out by Dr. Kiernan. I do not believe that there are constitutional changes produced by the removal of the ovaries after the menopause, although the changes brought on by the removal of the functionating organs are varied, and many times may be severe. I do not think any constitutional symptoms will result from the removal of the testicles at the age Dr. Lydston has advocated this operation.

DR. G. F. LYDSTON, closing the discussion—It was not my intention to go into the entire field of the pathology and surgery of the prostate in reporting my case. I simply narrated the case to illustrate a method which I am satisfied, from experience with this and other cases, will prove a very valuable substitute for two operations—castration and resection of the vas deferens, both of which at best have narrow limitations. The older members of the Academy know how I stand on that particular point. I recall that in reviewing "Twentieth Centtury Practice of Medicine," to which I had the honor of contributing the chapter on "Diseases of the Prostate," the late Dr. John B. Hamilton made the remark that I had taken a very conservative attitude. I have changed my opinion considerably with reference to those operations. I find that many patients, who do not like to be castrated, hail with more or less joy the operation of resection of the vas deferens. The operations of castration and of resection of the vas deferens are undoubtedly of value in certain cases; but it was not my intention to enter into their indications, excepting as I mentioned them incidentally.

Dr. Kiernan raised a point which I was very glad to have him bring up. I have been watching, with more or less curiosity, recent experiments in the conservative surgery of the ovary, particularly those of ovarian grafting, and the possibility of their having a bearing on the question he referred to. Dr. Peterson has practically answered the remarks of Dr. Kiernan for me. A great deal depends on the age of the subject.

Dr. Baum took a rather pessimistic view of operations in general for the relief of prostatic hypertrophy, and his views were answered inferentially by the remarks Dr. Ries made with reference to the time that these operations should be performed. We should advocate early prostatectomy in these cases, other things being equal. I have elsewhere made the assertion that the trouble with prostatic surgery is that it is not given the same opportunity that has been granted to uterine surgery. It is rather difficult to draw analogies between the surgery of the prostate and that of the uterus. I agree with Dr. Ries in saying that both operations on the testes and cord, and radical operations on the prostate, have effected cures, though perhaps not so many as were claimed at first. I have been disappointed in some of my own cases, but I have been highly gratified by the results in others, particularly where early prostatectomy has been performed. In a patient on whom I operated five or six years ago, a man, a little over 50 years of age, and otherwise in excellent condition, I removed the two lateral lobes and a

large median one, or rather, I shelled out adenomatous growths from these lobes, and obtained a perfect cure. That man is a living exponent of what can be done by early prostatectomy. He was operated on in the pre-surgical stage of his condition, i. e., before he had been infected. If it were generally understood that radical operations on the prostate, if performed comparatively early, are more or less promising, and general practitioners would look out for symptoms of prostatic disease, we might be able to get our cases at a much earlier period. As a matter of fact patients have had more or less trouble with the prostate for years before the symptoms became sufficiently prominent to induce them to consult a surgeon.

So far as the analogy between the prostate and its pathology and surgery with the uterus is concerned, it cuts very little figure nowadays. We mention these things in giving a historic survey of the subject, but very few advanced surgeons take them into serious consideration.

The one I have advanced is a substitute for the other two operations on the vas deferens and testes. It is evident that, so far as the result is concerned, the condition of the prostate determines the question. Patients with a distinct fibroid change in the prostate are not likely to be benefited very much by those operations. When the case has advanced and glandular tumors or a fibroid condition exist, then I should not expect a favorable result from operative interference.

I was very glad Dr. Ries referred to early operation, or early treatment. In many cases local treatment of the prostate by means of massage will relieve the congestion and irritation about the prostatic urethra, and in a measure prevent the development of typical prostatic hypertrophy, which is a term we use for the sake of convenience.

With reference to suprapubic section, in many cases in which we substitute a suprapubic fistula for castration, it is far preferable, so far as the mental condition of old men is concerned. I have obtained excellent results from that method. I recall the case of a man who was made comfortable the rest of his days by that method, whereas before he had suffered severely with pain during urination so much so that I confidently expected to find a stone on exploration. He acquired almost sphincteric control of his suprapubic fistula. His method of urinating was to take a glass funnel, put a little absorbent cotton under the lower edge of it, and pass his urine through the funnel into a vessel. He did this for several years, and finally died of a condition which was not referable to his genito-urinary apparatus. With reference to the point of operating suprapubically for the purpose of establishing a permanent fistula, by making a small incision into the bladder, a mere puncture, so to speak, followed by forceps, dilating it, passing the finger in and exploring, no further operation on the bladder is necessary to make the fistula permanent. By operating in this way the muscular wall of the bladder will often develop a sphincteric function.

With reference to the direct results of castration, the contributions of White and others have shown that the operation was not based on analogic reasoning altogether, but on experimental results and observations in dogs. Castration has a marked influence over the prostate. It does not necessarily follow that we can cure all forms of prostatic hypertrophy by the operation I have advocated; I do not claim that, but the operation is certainly applicable in a certain number of cases.

With reference to grafting the ureters into the rectum, it is a serious operation and old men are better off using their catheters. How important the operation of Maydl, of grafting the ureters into the sigmoid flexure, may be in its relation to prostatic hypertrophy in the future, I do not know. But I believe I am correct in stating that the trend of surgical opinion is in the direction of that method rather than the transplantation of the ureters into the bladder, which is almost inevitably followed by infection of the kidney and its necessarily serious results.

(To be continued.)

Mercurial Ointment in Erysipelas.

A number of additional observations have recently been related by Dematteis, in the *Gazz. degli Osp.*, confirming the extreme efficacy of mercurial ointment, even in the gangrenous form of erysipelas.

Cleveland Medical Society.

Dec. 8, 1899.

DIGITALIS AND ITS AIDS IN CHRONIC CARDIAC HEART DISEASE.

DR. J. B. MCGEE read a paper on this subject. The essential indication in treatment of chronic heart diseas is to maintain the integrity of the cardiac muscle. Myocardial weakness implies a lack of ability to overcome valvular defects. To restore deficient compensation, the indications are to lessen the labor of the heart, to increase its power, and to improve its nutrition. The dual action of digitalis makes it of special value when the heart muscle is weak and the vascular tension low. Under its use there is an absolute increase in the volume of the cardiac muscle, so that digitalis may have a really curative action. He prefers long-continued medium doses, diminishing them as dropsy subsides or the pulse reaches normal. Because of the varying composition and medicinal value of digitalis, a preparation of the plant itself, preferably standardized, is the best. When there is high tension, it may be combined with a vasodilator, such as nitroglycerin. Because strophanthus has little action on the vessels, it is of especial value in the presence of high tension. Diuretin acts best in children, and caffein is more effective than its soluble salts. Strychnin is an almost ideal circulatory stimulant, especially in cardiac asthenia, and it is therefore of great value in the treatment of the aged. The diuretic action of calomel should always be remembered, as it is particularly effective in cardiac dropsy with hepatic congestion.

DR. P. M. FOSHAY drew attention to the fact that medical society programs, as a rule, showed that no subject is so steadily neglected as therapeutics, despite the fact that the treatment of disease is the chief aim of the art of medicine. He has had gratifying results from the diuretic effect of calomel used along with digitalis, but reported one death of a patient with chronic heart disease, from the exhaustion incident to a serous diarrhea that was probably caused by the calomel and digitalis.

DR. H. W. ROGERS thought that the manner of use of digitalis was largely a question of diagnosis. Certain conditions of the heart seem to be made worse by its use, especially some cases of aortic insufficiency. He noted one case of death within half an hour after the administration of half a dram of the tincture of digitalis. The case was one of dilated and hypertrophied heart, and death was undoubtedly due to the fact that the patient had for a long time been taking small doses of digitalis. He suggested that physicians pay too little attention to the functions of the liver and intestines in chronic heart disease. Very often, placing the patient on a regulated diet, and unloading the venous system through the intestinal tract, greatly relieves an overburdened heart. He also said that there are certain cases of pneumonia in which better results can be obtained from the use of digitalis than from the use of strychnin.

DR. C. F. HOOVER had never seen, in a single case, any evidence of vasoconstriction following the use of digitalis, and thought that the increase in volume and duration of the pulse was due to the prolongation of the systole of the left ventricle. The indications for the use of this drug necessitate a very nice study of the character of the pulse. The normal radial pulse being an expression of the ventricular systole and contraction of the elastic aorta, there occurs in consequence, in atheroma of the aorta, a pulse that is short and rapid and quite similar to that of aortic insufficiency. Here digitalis will do little good, while nitroglycerin will greatly relieve the heart. The first stage in the breaking down of the myocardium against peripheral resistance is marked by the slowing of the heart-rate, while later in the process the pulse becomes very rapid and arrhythmic. He reported a case of a man in a condition of extreme general cyanosis, with cold extremities and very weak pulse, due to increase of peripheral resistance, and which could be detected from the long duration of the pulse. Under the administration of nitroglycerin, the cyanosis promptly and entirely disappeared. The increased volume of the liver in chronic heart disease is not always due to passive hyperemia. The experiments by Gad showed that distension of the hepatic vessels will obstruct the flow of blood through the portal vein. In the case of cyanosis before

mentioned, the patient's liver was diminished at least two fingers' breadth in volume within two or three days, under the administration of nitroglycerin. No doubt it is these cases in which the saline cathartics do the most good.

DR. J. G. SPENZER asked the essayist if he had stated that caffein was more efficient than its soluble salts. He noted that calomel had been used as a diuretic by physicians in Ohio, in the early part of the century. He thought it was an excellent thing to use the entire drug of digitalis rather than any of the alkaloids.

DR. J. H. LOWMAN noted that Dr. Delamater of Cleveland, in the early part of the century, was accustomed to use a pill composed of a quarter of a grain of squills, calomel, opium and digitalis, in chronic heart disease. He thought there was usually no real objection to the long-continued use of digitalis in the case of senile hearts with arteriosclerosis, especially as it increased the nutrition of the heart muscle.

DR. R. D. FRY said he had experienced favorable results from the use of digitalis in the chronic bronchitis of the aged, and had found it superior to any other remedy.

DR. J. B. MCGEE, in closing, stated that it had been his experience that caffein gives better results than its soluble salts. He had used squills very little. He thought there was little risk in using strychnin in long-continued large doses, provided the effect was carefully watched. He had not used digitalin hypodermically, as it is insoluble.

DR. L. B. TUCKERMAN noted that from the earliest settlement of northern Ohio the physicians of that district were accustomed to use calomel as a diuretic.

FEEDING IN TYPHOID FEVER.

DR. G. W. MOOREHOUSE read a paper on this subject. During eight months, 57 cases of typhoid fever were treated at Lakeside Hospital, and 35 of these on return of the appetite, were fed, without regard to the temperature. The feeding was usually kept up during relapse, unless the appetite diminished with the increase of temperature, which did not commonly occur. In the fatal cases there was no return of the appetite, and they were fed only milk. Five died, a mortality of 8.8 per cent., and 11, or 19 per cent., had relapses. Well-cooked rice, soft-boiled or poached eggs on soft toast, macaroni, *blanc mange*, thickened soups, crackers with milk, scraped beef and minced chicken comprised the dietary of these patients, and these articles give about the same range, but not the same same variety, as the diet given by Dr. Shattuck (JOURNAL, xxix, p. 51) to his typhoid patients. With this diet the majority of the patients were satisfied until their temperatures had been normal for some time, and later they were fed still more liberally, but not until they would ordinarily have received full diet.

The general condition of typhoid patients improved greatly under food; no hemorrhage nor perforation occurred after its administration, but the percentage of relapses to the whole number of cases was rather high. There is very little material available for a statistic determination of the relative mortality under liberal and strict diet, but what there is seems rather in favor of the liberal diet, and this suggests a possible prognostic value of a return of the appetite.

DR. J. H. LOWMAN said that in observing these cases that occurred in his service at Lakeside Hospital, recovery seemed more rapid and the patients seemed in better condition after the trial of the liberal feeding, but after Dr. Moorehouse had tabulated the results, the rather large proportion of relapses surprised him. He is sure that typhoid patients are not sufficiently fed, and that the emaciation in this disease is often due to this fact. He noted that the normal body daily required food containing 1500 to 2000 heat units. This would require five to six pints of milk on a strictly milk diet. This amount is too large to give, while the addition of a little farinaceous food will add enormously to the number of heat units, and a little rice or cracker may be added to the milk with very great advantage. He thought that these articles added to the diet tended to prevent some of the late complications of the disease that often result from the low state of the general nutrition. The value of soups is very low, while that of meat juice is the same as that of milk, consequently meat juice is usually given in much too small quantities. There is no necessity of using meat, and there might be some danger.

DR. R. D. FRY had never seen a case of relapse in typhoid when a strict milk diet had been employed during the course of the fever, and for several days after its subsidence. In cases in which a strict milk diet is not well borne, some liquid peptonoids may be substituted. As the cases reported appeared to show about 40 per cent. of relapses, the result could hardly be considered as favorable to the practice of early feeding. He had seen numerous cases of typhoid made very much worse by the administration of remedies to check the diarrhea. He thought that if the treatment of typhoid by simply careful nursing and strict milk diet, with perhaps the addition of peptonoids, was carried out, the results were much better than when any medicine was used.

DR. W. H. HUMISTON criticized the use of crackers with milk in typhoid, for the reason that crackers are very indigestible, being composed chiefly of flour and lard. He thought that the recovery of these patients after the eating of crackers spoke wonders for what a typhoid patient can endure. The using of rice he thought commendable.

DR. O. B. CAMPBELL said that in regard to the feeding of typhoid patients, as well as in regard to the administration of medicine, he had come to the conclusion that there was no routine method to be followed. There are so many constitutions and so many varying features of the disease that it is impossible to lay down any rule of diet or remedies. Some may secure good results from one method of treatment in a certain series of cases, while others will certainly fail in employing the same method. The conclusion of the whole matter is that the physician must carefully study each case and treat it in accordance with the observed conditions.

DR. E. W. MOOREHOUSE, in closing, said that he did not care to adopt the method of liberal feeding. He had simply reported its use in a series of cases. The cases were not fed until they had some appetite, and so long as that continued the feeding was not interrupted. If there was any rise of temperature and the appetite failed, the amount of food was reduced. Most of these patients were returned soldiers from the recent war and were in a bad condition. He did not think that intestinal perforation can be attributed to anything that the physician can prevent, but he thought that the amount of tympanites was one of the most important things for the physician to watch, and if there is any distension, even though the temperature and pulse are satisfactory, something should be done for it because of the possible danger of perforation. The proportion of relapses as compared with the whole series of 57 cases is 19 per cent. He thought that Dr. Fry's experience was very unusual, as Osler, who is extremely careful to limit the diet to milk, reports relapses, and Pepper, whose rules in this respect were the most rigid, and who gave milk diet for ten days after the normal temperature was reached, reported relapses.

FIBROMYOMA OF LABIUM.

DR. B. O. COATES reported a case of fibromyoma occurring in the labium majus. The patient was aged 21, married, and had one child. There had always been some enlargement of the left labium, but after marriage it had developed rapidly and caused pain during coitus, as well as obstruction during parturition. The growth lay in the median line, and greatly resembled a scrotum with one testicle higher than the other. This resemblance was so great that one physician had termed the case "hermaphroditic." The tumor mass measured 17x8x6 cm., and was movable, irreducible and painless. Three separate tumors could be made out, two of which were of the consistency and size of testicles, while the third was larger and harder. Around these were a large number of smaller ones. The skin was not adherent to the tumor. After removal, sections showed clearly that they were fibromyomas.

DR. COATES, in reply, said that the skin was not adherent to any extent, that the tumors were all fairly movable beneath the skin, so much so that the house surgeon ventured the diagnosis of varicocele.

DR. HUNTER ROBB asked if Dr. Coates had found the skin adherent to the fibromyomatous tumor, and said that this was an exceedingly interesting specimen. He had never met with such a case, and knew of few references to similar ones.

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SERUM TREATMENT OF TUBERCULOSIS.

It would be hazardous to venture a prediction as to the outlook for the serumtherapy of tuberculosis. With our present knowledge, antitoxins—at least in effective amount and activity—are believed to be produced only in the so-called self-limited diseases, and tuberculosis is scarcely included among these. It should, however, not be overlooked that recovery from tuberculosis—often spontaneous—is by no means rare, and the fact that a large number of those exposed to infection are not attacked by the disease would seem to indicate that the body does possess certain protective influences even against this much-dreaded disease. For these reasons the hope seems not unjustified that time will yet bring a remedy. This hope has not been realized in either tuberculin or tuberculin R, nor yet by any other of the antitubercle sera on the market. Investigation toward this end is actively going on, and the errors of the past may prove the stepping-stones of the future. One of the most persistent students in this field of activity is Maragliano, of Genoa, who, in a recent communication[1], on the basis of clinical and experimental experience answers in the affirmative the question whether tuberculosis is susceptible of treatment with antitoxic serum. He contends that, by the methods described by him three years ago, it is possible to obtain a serum containing protective substances that possess the property of neutralizing in healthy experimental animals—guinea-pigs and rabbits—the toxic effect of lethal doses of tuberculous toxin. The test-poison may consist indifferently in the bodies of dead bacilli freed of fat, in aqueous or glycerin extracts or in active substances obtained from these. The antitoxic serum exhibits its protective activity if injected as long as six hours before the toxin, or together with the toxic substances. The toxic substances employed invariably destroy healthy control animals within two or three days. The same antitoxins prevent all thermic reaction when injected into tuberculous human beings at the same time with positively pyrogenic doses of tuberculin, whereas subsequent injections of the same amount of tuberculin alone are followed by febrile reaction. These antitoxins excite the development of new protective substances when injected into healthy and diseased human beings. On repeated simultaneous injection with non-toxic doses of tuberculous toxin, the antitoxins prevent, in healthy experimental animals, the occurrence of the progressive wasting that takes place in animals treated with the same amount of toxin alone. In the blood and in the serum of tuberculous individuals toxins have been found that exert the same biologic effect on guinea-pigs as the tuberculous toxins. It has further been determined that this toxemia can be diminished and dissipated by systematic injections of antitoxic serum, so that the injection of blood serum or the urinary extract will not be followed in guinea-pigs by the deleterious effects mentioned. At the same time the presence of antitoxins that formerly were not present in the blood of the patients can be demonstrated. The tuberculous antitoxin is harmless to human beings and animals, either healthy or tuberculous. Care must be taken, however, not to confound the results of the trauma inflicted by the injection with the special effects of the antitoxin, as some tuberculous subjects exhibit thermic reaction after injection of even physiologic salt solution, or of the physiologic serum of various animals. As much as 40 c.c. of antitoxic serum have been injected into tuberculous patients at one time without reaction.

Although the antitoxin is capable of neutralizing the activity of the tuberculous toxins in the animal body, it has not yet been shown that it exercises any direct inhibiting effect on the growth or multiplication of the tubercle bacilli. In the test-tube the antitoxin exhibits an attenuating or destructive influence on the tubercle bacilli. Bacilli kept for twenty days at a temperature of 37 C.—98.6 F.—in antitoxic serum are innocuous for rabbits and guinea-pigs, and do not develop when inoculated on the usual culture-media. It can not be concluded that a similar result takes place in the animal organism. It may, however, be supposed that the serum effects some change in the soil within the body in such a way as to inhibit or destroy the activity of the bacilli. If virulent tubercle bacilli and antitoxic serum are injected into the peritoneal cavity of guinea-pigs, and if peritoneal fluid be removed after the lapse of thirty-four hours, it will be found that, although bacilli are still present, their injection into other guinea-pigs will not induce tuberculosis, and no development follows inoculation of the usual nutrient media. The injection of antitoxic serum into the peritoneum, together with .2 gram of virulent living bacilli, prevents acute infection in guinea-pigs, whereas the control-animal receiving the same amount of bacilli dies in the course of two or three days. The guinea-pigs treated with the antitoxin die after the lapse of a month, greatly wasted, but they may survive if the intraperitoneal injection of antitoxin be continued. As many as 50 per cent. of the guinea-pigs thus treated will be saved.

It may reasonably be concluded that the antitoxins, inasmuch as they neutralize the toxins, likewise favorably influence the soil in the animal body, and experience justifies the opinion that the properties and the alterations in the animal organism govern largely the distribution and the vital activity of the bacteria, particularly also the tubercle bacilli. Support for this view is found in the fact that with improvement in the general condition the bacilli disappear from the sputum, whether recovery be spontaneous, through hygienic and dietetic

[1] Berliner Klin. Woch., Dec. 4, 1899, p. 1073.

measures, or be caused by antitoxin treatment. This signifies that the tubercle bacillus can be effectually opposed, without the necessity for remedies capable of attacking it directly in the tissues. On the other hand, it can be assumed that the symptoms of tuberculosis are largely due to the tuberculous toxins, and not to the bacilli as such. It is possible to develop characteristic pathologic-anatomic alterations in animals with the toxins alone.

The conclusion would seem justified that the same significance and the same therapeutic indications must be conceded to the antitoxins of tuberculosis as belong to the other antitoxins in the treatment of infectious diseases, because those relations are based as determined experimentally on the scientific demonstration of the action and the application of the antitoxins; and it is believed by Maragliano, that the results obtained in the treatment of tuberculosis in human beings confirm those of experimental observation.

RELATION OF RENAL DISEASES TO OTHER MALADIES.

Consulting physicians habitually see a considerable number of patients who have been under the care of general practitioners, and are frequently surprised at the number of cases in which renal lesions have been overlooked because the symptoms which the patient has presented have not pointed directly to kidney disease, and the physician has not been careful enough in his examination of the patient to insist on a careful urinary analysis. This carelessness is chiefly due to the fact that the general practitioner is so pressed for time that he fails to make an analysis when he should do so, or else it depends on the fact that his primary medical training has not been of such a character as to teach him the importance of such examinations. As a matter of fact, there are few diseases met with among human beings which so frequently produce aberrant and unusual symptoms as disease of the kidney. It seems hardly worth while to point out that no case of severe headache should be treated for any length of time without a careful urinary analysis being performed, and again, the various neuralgic pains in different portions of the body, which do not yield readily to treatment, should at once be regarded with suspicion as evidencing deficient elimination of toxic materials from the system. So too, it is not uncommon for physicians to meet with cases of disturbed heart action due to renal changes, or with a subacute or chronic bronchitis, which fails to yield to ordinary methods of treatment and is found to be due to defective renal activity. In some cases, on the other hand, it is not to be forgotten that in association with changes in the kidneys there are primary or secondary alterations in the circulatory system, and a careful examination of the heart and arterial walls may reveal the fact that not only the kidneys but also the heart and vessels need the attention of the therapeutist.

In another class of cases digestive disturbances, varying widely in degree and character, may manifest themselves. Even continued nausea, or attacks of vomiting, may be dependent, not on any local condition, but on the presence of uremic poison in the blood, and urea poured out by the gastric mucous membrane undergoes an ammoniacal change and so irritates this viscus. In other patients, attacks of violent serous diarrhea, which give the patient much annoyance and cause great weakness, are in reality efforts on the part of the system to eliminate poisons which are accumulating so rapidly that, did active purging not ensue, grave toxemia would at once develop, and so the important lesson is learned that active purging in a patient with degenerated blood-vessels, or in a younger person with edema, should not be suddenly checked with opiates or astringents until the physician is satisfied that the kidneys are acting properly. In still other patients cerebral symptoms develop, such as dizziness and swimming in the head, and these should not be put down to a thickened tympanic membrane, or to middle or internal ear disease until all possibility of unhealthy kidneys has been eliminated from the case. Meniére's disease may be closely simulated by uremic intoxication. In connection with the question of bronchitis, we have neglected to speak of the frequency with which the prognosis, and, indeed, the diagnosis of pneumonia may be confirmed by urinary analysis. In many cases of renal lesion, consolidation of the base of the lungs or pulmonary edema will be looked for more carefully if the physician is aware of the fact that the urine is not as it should be, and usually the presence of albumin and casts in the urine of a patient suffering from pneumonia increase the gravity of the prognosis to an extraordinary degree.

Finally, it is not to be forgotten that cases are on record in which acute respiratory symptoms, depending on sudden pouring of liquid into the lungs, or edema of the glottis, has come on with great suddenness and apparently without any of the ordinary causes, these symptoms being entirely due to the uremic condition which in reality underlies them.

PATHOLOGIC ADAPTATION AND NATURAL HEALING.

The power of the organism to adapt itself to pathologic conditions is a subject of broad biologic as well as medical interest. That pathologic adaptation is receiving thoughtful attention is well shown by the frequency with which it is chosen as the subject of general addresses before medical gatherings. Thus, Nothnagel spoke on this topic before the pathologic section of the eleventh International Congress, in Rome, in 1894; and Welch delivered an instructive and scholarly presidential address on "Adaptation in Pathological Processes," at the Congress of American Physicians and Surgeons in 1897. In this latter, Welch reviews some of the most striking examples of adaptation seen in human pathology—the hypertrophies, regenerations, inflammation—and reaches the general conclusion that "the healing power of nature is, under the circumstances, present in desire, frequently incomplete and

imperfect, and systems of treatment based exclusively on the idea that Nature is doing the best thing possible to bring about recovery or some suitable adjustment, and should not be interfered with, rest often on an insecure foundation. The agencies employed by Nature may be all that can be desired; they may, however, be inadequate, even helpless, and their operation may add to existing disorder. There is ample scope for the beneficent work of the physician and surgeon." Welch emphasizes that in adaptation the agencies employed are such as exist primarily for physiologic uses, and that they often have no special fitness for securing good pathologic adjustment.

In a recent discussion of this subject, by Leube,[1] the power of an organ to act vicariously for organs performing similar functions is especially emphasized; the examples cited and discussed are, the skin and the kidneys, the stomach and intestines, the spleen and the lymph glands.

A degree of reciprocity between the skin and the kidneys certainly exists. The secretion of the sweat glands normally contained uric acid and urea; it is a familiar fact that profuse perspiration reduces the amount of water in the urine; and energetic diaphoresis is much used in nephritis for the removal of dropsical accumulations. Leube warns against the danger of diaphoresis in cases of subcutaneous edema, because while water is freely eliminated the excrementitious substances brought into the skin are not removed as freely; they are liable to be reabsorbed into the blood and produce intoxication. The salivary glands and the bronchial mucous membrane at times eliminate considerable quantities of urates (Fleischer). In uremia the vomitus may contain urea, but this is evidently not at all constant.

Suspension of the digestive activity of the stomach may be fully made up for by vicarious function of the intestine. This is well shown in experimental removal of the stomach, also by the good general nutrition sometimes observed in patients suffering from complete gastric achylia. Leube thinks that careful study of the factors brought into play in the exercise of vicarious intestinal functions would soon yield new therapeutic indications.

The bone marrow, lymph glands and spleen are the blood-making organs. The most important is the marrow. The enlargement of the spleen in chlorosis, and the apparently favorable course of the cases with splenic enlargement lead Leube to regard the enlargement as vicarious. The enlargement of the lymph glands after splenectomy and the consecutive lymphocytosis constitute another example of vicarious action of functionally homologous organs.

Finally, Leube cites instances to show that morbid processes may be modified in a way beneficial to the organism by increase in the activity of organs that perform wholly different functions from the diseased organ. In this category especially belong cases in which increased activity of various secretory organs helps to eliminate morbid fluids of various kinds and poisons. In addition to generally well-known facts of this kind, an example is cited of an enormous spontaneous salivation followed by complete resorption of an extensive ascitic accumulation; no less than three liters of saliva were discharged in a day. Therapeutic ptyalism, induced by chewing on pieces of rubber, gave unquestionably favorable results in exudative pleuritis.

It will be observed that the organism possesses numerous means for conquering diseases and eliminating disease products, and Leube calls attention to these mechanisms for the purpose of directing our therapeutic efforts as much as possible along the lines thus indicated by Nature.

[1] Deutsches Arch. f. Klin. Med., 1899, 63, p. 80 (Festschrift Ziemssen gewidmet).

OSTEOPATHY IN KENTUCKY.

We devote considerable space this week to a legal decision rendered in Kentucky against one of the fads of the day. We do so because it covers the question in a legal and common-sense way, and gives us the inner workings of these "remarkable" people who have discovered, with the naked eye, nerves and "such" that scientific investigators with the best of microscopes have failed to discover in all the past. The legal decisions referred to and the arguments used will be useful to those in other states who intend to oppose this latest movement to debase medicine. The Board of Health of Kentucky deserves the thanks of the profession of that state for the excellent work it has done in keeping this and other forms of quackery out of its borders. It has required work and constant effort, and like energy, backed by a united profession, will have like results in other states. As the judge concludes: "It is singular, indeed, that in an enlightened age like this such humbug schools and ignorant pretenders should find recognition by the laws of any state."

A DANGEROUS EMPLOYMENT.

The article by Betts, in this issue of THE JOURNAL, on the dust pneumonia from a gold-mining plant, makes a serious indictment of the management of such establishments. A mill employing on an average fifty men, with a monthly change or discharge list of fifteen, would itself be significant of something wrong. When out of a total of about one thousand employed during five years, one hundred, "conservatively speaking," have already died, and there is a prospect of many more following them, we see the unquestionable evidence of one of the most fatal of occupations. Dr. Betts gives a record of thirty deaths of previously robust workmen whose average time from first employment to death was twenty-nine months, with details of some of the cases and autopsies showing the lung conditions and leaving no question as to the cause of death. It is only just to say that Dr. Betts closes his paper with the statement that the mill superintendent is doing his best to improve the conditions, which will, he thinks, in a measure, remove the cause of trouble. It would appear, however,

that there is a defect in the laws in regard to such unhealthful occupations that the publication of this experience ought to remedy.

THE SUCCESS OF WATER FILTRATION.

So important to the health of a community is the purity of its water-supply, that the interesting object-lesson afforded by the experience of the city of Albany, N. Y., in the matter of water filtration, should not be permitted to pass unnoticed. Having concluded, after due deliberation and thorough consideration of the subject, that filtration was the only immediate remedy for the contamination of its water-supply, derived from the polluted Hudson River, Albany, in fifteen months, erected a filtration-plant and put it into successful operation. Slow sand-filtration is the method adopted, and, whereas formerly typhoid fever was excessively prevalent, the water is now almost wholly free from bacteria, and, while formerly often discolored, is, besides, now perfectly clear. If anything has been learned of late years in connection with the water-supply, it is that filtration is not alone the most practicable, but it is the most potent, means at our command for purposes of purification and disease prevention. Of the truth of this proposition, and of its importance, evidence would seem to be afforded by the suggestion that has recently been made for filtering the water-supply of New York, which is received through the Croton aqueduct, and from protected water-sheds. It has been maintained that this water-supply is satisfactory, and that it does not breed disease, but it is now thought wise to remove, by means of filtration, even such slight possibility of contamination as may be conceived to exist.

PREMATURE BURIAL.

A prominent eastern physician has been quoted in the daily press as saying that 1 in every 200 interments is premature. The public is easily disturbed by such publications, and if they are not true they are abominable and, in fact, almost criminal. It is very doubtful whether even 1 in 1,000,000 burials is premature, and indeed, whether they ever occur except in times of great public panic, as in times of epidemic or in the extremely rare instances of prolonged and death-like trance. The sensational stories of conscious terror and helplessness given out are like ghost stories, common enough, but generally equally without a basis of fact. How anyone can give 1 in 200, or any other figure, as the number buried alive, it is hard to conceive, and such statements without adequate statistics to back them have no value whatever. The fact that a French inventor is or has recently been in this country endeavoring to introduce his device "Karnice" for preventing premature burials is probably the motive of the recent revival of newspaper interest on this subject, which has been gone over and rehashed many times in the past century. There is only one serious possibility of premature interment to be really considered, and that is in cases of epidemics with public panic and neglect referred to above. Under other conditions, when an individual apparently dies he does so practically and permanently, and the ordinary decent interval between that event and burial usually insures it in other ways. We need say nothing of the common fact of embalming or preserving bodies for burial, which puts resuscitation completely out of the question.

THE FUTURE OF THE X-RAYS.

In an article in a new periodical[1], Professor Trowbridge, of Harvard University, shows that the accidental or semi-accidental discovery by Roentgen of the rays that bear his name and thus immortalize him is still bearing fruits, and what it may lead us to is still in the future. One fact that is particularly suggestive is that certain salts of the element uranium and certain derivatives of pitchblende possess the property of giving off these rays, so far as to cause the lighting of fluorescent screens, the dissipation of electric discharges and rendering air and gases better conductors of electricity. They can also penetrate opaque substances and throw shadows of bones on photographic plates. These salts produce at least some of these effects when spread in the form of powder on cardboard, and hence the suggestion of far simpler methods of X-ray employment than those now in use. It would be a great thing if, as Professor Trowbridge remarks, we could by a simple powder do away with the elaborate Crookes' tubes and influence-machines now essential in X-ray work. Physicists have not yet reached that result, but the possibilities of the future seem unlimited. It is a curious fact that these radio-active substances appear to give off these rays, like magnets, without losing any energy, another striking fact that suggests advantages in their future possible utilization. A surgical X-ray outfit may yet be a very simple and inexpensive affair; a few jars of powder or some incrusted screens with photographic plates may be all that will be required. Such imaginations are not altogether unjustifiable when we consider that the original discovery is hardly over four years old, and that only lately a substance has been found that is hundreds fold more radio-active than the original uranium earth first employed. We need say nothing here of the other and purely scientific leads that have been opened by this discovery; they have not as yet a medical bearing, and therefore do not concern us so directly in our professional work. No one can tell, nevertheless, what new possibilities may exist, even in this particular direction, in the near future.

THE PHYSICIAN'S CONTRACT.

THE JOURNAL[2] recently mentioned the suit of one Thomas Burke in Indiana, for damages against a physician who refused to answer a call. Burke therefore held him responsible for his wife's death. We have now to note a suit in Connecticut, brought by one Daniel Burke against a physician for failing to attend at the birth of a child, for which he had been bespoken. The child died shortly after birth, and the father, as its administrator, sues the physician for breach of contract. Just why the suit is brought in this form we are not told, possibly it was a legal necessity, but the doctor's attorney raised the curious point that there was no contract with the child, who, being unborn, could not have acquired contractory ability. The woman apparently passed her emergency without injury, and only the child suffered

[1] International Monthly, MacMillan & Co., Vol. 1, No. i, January, 1900.
[2] THE JOURNAL, Nov. 11, 1899, p. 1234.

damage from any breach of contract that occurred. The point raised is a purely technical one, and the judge evidently so considered it, as his decision overruled the demurrer. The main question was, he held, whether there was a neglect of duty, the death of the child resulting therefrom; the complaint therefore stated a cause of action. If the contract existed, there was a neglect, and somebody must have been responsible for the consequences. The case does not seem parallel to the Indiana case, in which there was no mention of breach of contract.

BUBONIC PLAGUE.

Bubonic plague, to the medical profession of Europe and America, has been for many generations little more than a name met with in the history of epidemics. London became practically free from the dreaded scourge after the great fire. No doubt the latter was a factor of some importance in the prompt dissipation of the infection; but as the disease disappeared gradually from continental cities which had not been burned to the ground, other agencies must have been concerned in its suppression. If these agencies were, as many believe, the sanitary improvements of progressive civilization, we have surely at the present time no ground for anticipating any disastrous invasion, for the sanitary conditions under which we live are infinitely superior to those in existence when the plague ceased to prevail epidemically among the nations of Europe. Besides this we have now available for the protection of the people a more intimate knowledge of the causation of the disease and of the methods by which its progress may be stayed. During the past quarter of a century the existence of oriental plague has been reported from time to time in southeastern Russia and in some of the seaports of China. During the past six years it has spread extensively from these latter to the crowded and filthy habitations of the poor of many oriental cities. Recently it has passed the Red Sea and the Mediterranean, and even crossed the Atlantic to the coast of South America; and within the past few days information has been received of its appearance in Honolulu, Hawaiian Islands, and in Manila in the Philippines With the establishment of national quarantine stations at Manila and Honolulu, there need be no fear of an introduction of the disease into the United States, for our modern methods give us two safeguards, the first assuring that no infection shall be embarked at the infected port, and the second that no infection shall be disembarked at the home port. San Francisco, Cal., is already provided with the means to intercept infection, and it is understood that arrangements are in progress to have the needful equipment for disinfection and detention for observation established in Hawaii and the Philippines. But should the infection pass these double guards and effect a lodgment on our soil, there need be no fear of a recrudescence of the pestilence of the Middle Ages of Europe in the United States at the close of the nineteenth century, for, as we argued at the beginning of this article, the sanitary conditions under which we now live are infinitely superior to those which attended the decadence of the plague in Europe more than two centuries ago.

MARINE-HOSPITAL SERVICE REPORT.

The advance sheets of the U. S. Marine-Hospital Service health reports, of the concluding pages of Vol. xiv, contain some figures of interest. They show that while there has been a scattering epidemic of smallpox during the past six months, in the country, some 2000 cases altogether, the mortality has been very slight—scarcely 1.5 per cent. Undoubtedly the mass of the cases were of the milder type of varioloid, like the 125 reported as occurring at Dixon, Ill., where it long passed unrecognized, as "Cuban chicken-pox." Yellow fever has hardly been an epidemic anywhere except at Key West and Miami, Fla., and to a very slight extent in one or two other localities like New Orleans, La., and Jackson, Miss. Its mortality has also been small, less than 7 per cent. In Cuba also it was comparatively slight, though its mortality was greater. The worst locality was Santiago, with 230 cases between June 10 and December 9, and fifty deaths. The highest mortalities here reported are from Mexico—Cordoba and Vera Cruz—with 147 and 248 deaths respectively. The plague statistics from India are not encouraging, either as to death ratio or number of cases. The disease is reported as epidemic in Kobe, Japan, practically at our back door. Hongkong has the record as to mortality, with a total of 1640 cases and 1582 deaths between April 11 and October 28. From what we can learn, the disease seems to be confined to the natives, and its prevalence has excited comparatively slight attention. The usual tables of mortality of foreign and American cities are given, also the reports of immigrant inspectors of the Marine-Hospital Service abroad. The value of the service of these officials is readily appreciated for the main ports of embarkation, but the good some of these can do is lessened by the fact that in some cases, after inspection, the vessels touch and pick up passengers at various ports. Attention is called to this by Surgeon Anderson, stationed at Barcelona, and it would appear that the point is well worth notice by the bureau officials. The advance sheets of the beginning of volume xv, issued January 5, contain additional data as to epidemic diseases here and abroad, and a report on epidemic dysentery in Japan, by Dr. Stuart Eldridge, sanitary inspector at Yokohama. The continuance of yellow fever at Havana is noted, where it is considered due to the large number of unacclimated Spanish emigrants.

Medical News.

A CONTRIBUTION of $100,000 has been made to Harvard University for the investigation of cancer.

THE NEW building of Hamline University Medical College, Hamline, Minn., was formally opened the evening of the 1st.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., has been appointed surgeon-general of the National Association of Spanish War Veterans.

WITH THE number for January, the *N. C. Med. Jour.* changes its name to the *Carolina Med. Jour.*, and becomes a monthly instead of a semimonthly.

THE AMERICAN colony's charity ball was given in the City of Mexico on January 1, and was attended by

President Diaz and wife. The entire proceeds of the ball will be given the American Hospital of that city.

THE FATHER and widow of Dr. Brault have equipped, as a memorial, a complete radiographic and electro-therapeutic service at the Saint-Louis Hospital in Paris.

DR. N. S. DAVIS, the Nestor of the ASSOCIATION, celebrated the eighty-third anniversary of his birth on the 9th. Dr. Davis is still well and active, walks to his office daily, and this anniversary day found him at his desk at the usual hour.

THE FORMER officers of the Illinois State Board of Health were re-elected, at the meeting of the Board on January 9. They are: president, C. B. Johnson, Champaign; treasurer, R. F. Bennett, Litchfield; secretary, J. A. Egan, Springfield; attorney, John A. Barnes, Chicago.

THE FIRST general assembly of the professional syndicate of the scientific press was held at Paris, Nov. 21, 1899, preceded by a banquet. The representatives of the medical press were in the majority, but architects, civil engineers, electricians, etc., were also in evidence. The secretary-general is Dr. Bilhaut, 5, avenue de l' Opera.

PROFESSOR SCHENCK, Vienna, according to the lay press, has been given permission by the Minister of the Interior, to retire on a pension. The faculty of the University of Vienna, of which he is a member, is said to have demanded his dismissal for the alleged frivolous publication of scientific matter constituting a form of self-advertisement, concerning his investigations on the theory of sex.

A PHYSICIAN who prescribes and sells to his patients whisky, brandy, wine or any other alcoholic liquor that is not compounded into a medicine by the admixture of any drug or medical ingredient therewith, is required to pay special tax as a retail liquor dealer, even though the alcoholic liquor thus furnished be prescribed as a medicine only and so used, according to a recently reported decision of Commissioner Wilson of the U. S. Department of Internal Revenue.

THE FRENCH Minister of the Interior has appointed a committee of forty-eight members to suggest practical measures to arrest the spread of tuberculosis. It includes a large number of physicians, architects, members of municipal councils, and of societies for the erection of homes for working people, etc. The *Progrès Médical* observes that practical measures abound; the question is to raise money to apply them, and suggests that as alcohol is responsible for over four-fifths of the cases of tuberculosis in the hospitals, the liquor trade should be made to in some way supply funds for the maintenance of sanatoria for tuberculous subjects.

THREE VICTIMS OF "CHRISTIAN SCIENCE."—At an inquest in the case of a young girl who died in Council Bluffs, Iowa, last week while under the care of a "Christian Scientist," it was discovered that death was caused by appendicitis. It is probable that criminal proceedings will be instituted against the "healer." Two deaths under similar conditions are reported from New Brighton, Pa., where a "Christian Scientist" treated a family stricken with diphtheria, with fatal results in two cases.

QUARANTINE EXTENSIONS.—An executive order issued by the President, extending the Marine-Hospital quarantine regulations over the Philippine Islands, has been promulgated by the U. S. War Department. The chief quarantine officer is to be stationed at Manila, and not exceeding $300,000 a year is to be paid by him for quarantine purposes. All vessels leaving these ports will be required to take out bills of health showing compliance with the quarantine regulations. The quarantine officers will have authority over all vessels arriving at these ports, except the war ships of the navy, which will be subject to special regulations to be promulgated by the war department.

NO DAMAGES AGAINST A MUNICIPALITY FOR DEATH FROM DISEASE.—From the *Sanitarian* of January, we learn of a remarkable decision of the Court of Appeals of New York in a suit against the City of Auburn for damages for a death from typhoid that was alleged to have resulted from a defective sewer, that in storms overflowed into the cellar of the decedent. There was no denial on the part of the city of a knowledge of its negligence. The court held that the statute that permits action for damages by reason of death caused by the wrongful act, neglect or default of another has no application in such a case, and that no action against the municipality can be maintained by an individual for damages from sickness caused by the neglect of public officers to observe sanitary laws. This may be good law, but it seems from the point of view of the physician and sanitarian to be very poor justice. It is possible that making municipalities liable in damages for sickness and death resulting from the criminal neglect of sanitary rules by public officers would result in some unpleasant occurrences, but there can be no question that the general result would inevitably and powerfully tend to make public officials vastly more solicitous of the hygienic necessities of a city, even at the cost of some neglect of the political machine.

MEDICAL EXAMINATIONS IN OHIO.—The students of the medical colleges of Cleveland, Ohio—according to the local papers—are organizing for an effort to defeat the proposed medical legislation advocated by the doctors of the state. Their claim is that as regards themselves the law would have an *ex post facto* tendency, as they entered on their studies with the prospect that their diplomas would at once admit them to practice, and, in fact, they are said to make the general claim that a diploma from a reputable college ought to be all-sufficient. They say the examining board will be a political affair, and that the measure is instigated by the fear of disastrous competition with the graduates of the "grand medical colleges of Ohio"—who dread the examination under the proposed law—and that they will have the faculties of the said colleges on their side in this movement. It looks as if a determined fire in the rear might be made from this unexpected quarter to defeat the law.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF PRACTITIONERS.—The N. Y. Society for the Relief of Widows and Orphans of Medical Men has just issued its fifty-eighth annual statement. From this we learn that the Society was organized in 1842, with less than sixty members. In 1848 the membership was 80, in 1858 it was 110, in 1870 the roll was 125, and the number of members at the present time is 137. The first application for relief was in 1852, and at the present the number of beneficaries is 24. Its funds now amount to $234,981.86, and are securely invested. The income for the past year was $10,301.59. The initiation fee is $25, the annual dues $10. The payment of $100 constitutes a life membership. The payment of the annual dues for twenty successive years constitutes an annual member a life member. Under the

present by-laws of the society, the annuities allowed are, to the widow of a member an annuity of $400 a year, but for every $10 or multiple of ten of income an amount equal to 50 per cent. of said income shall be deducted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. The society has extended aid to 18 widows and 6 children of deceased members during the past year. The present officers are: President, Dr. David Webster; vice-presidents, Drs. A. B. Judson, E. Herrick and J. D. Bryant; treasurer, Dr. Henry Guck; secretary, Dr. A. F. Currier. The showing made in the good work done and in the economy of management illustrates how much benefit might accrue from such an organization on a large scale, provided a similar excellent management could be depended on.

MEDICAL SERVICE IN THE TRANSVAAL WAR.—Sir William MacCormac writes to the *Lancet* of December 23, of the hospital at Wynberg, known as General Hospital No. 1. This is seven or eight miles from Cape Town, South Africa, on the sloping ground of Table Mountain, an ideal situation both from a scenic outlook and the excellence of the climate, for however hot it may be in Cape Town, the location of the hospital always gives it a pleasant breeze. The wards are in part in the permanent buildings, but mainly in wooden and iron huts, containing fourteen to twenty beds each, and are lighted by electricity. The sanitary arrangements are very complete, and there is accommodation for 520 patients. At the time of writing, Nov. 25, 1899, 300 beds had already been filled with wounded from the earlier battles of Glencoe, Dundee, and Elandslaagte. An X-ray room has been fitted with modern apparatus and an operating theater of iron and wood has been built. Its furniture is of the well-known glass and iron type, with all necessary accessories. He says that it would be difficult, if not impossible, to secure better treatment in any hospital than the patients receive in Wynberg, and that "never before was an expedition more abundantly equipped with every resource which the medical authorities can suggest for the welfare of the sick and wounded. He makes brief notes of a number of cases in the hospital, and also describes one of the hospital trains, each coach of which contains twelve beds for the wounded and sick. These beds are placed endwise in three tiers, and have three-inch hair mattresses on canvas stretchers and are most comfortable. A simple arrangement admits of easy access to the bed from the stretcher. Some of the beds are fitted up as fracture beds. The saloon carriages making up the train have been remodeled so that they open at each end, allowing a passage way from one end of the train to the other, and one is devoted to kitchen service.

ILLINOIS.

BY THE will of the late Roswell D. Lyman, $25,000 is bequeathed to the Stuart Ryburn Memorial Hospital, Ottawa. It is stated that the will is to be contested by relatives of the testator.

THE SECRETARY of the Illinois State Board of Health and the health officer of Dixon have issued a joint denial of the sensational statements published in the lay press to the effect that smallpox was epidemic in the Illinois Normal School at Dixon. The reports are characterized as being greatly exaggerated.

Chicago.

DR. M. L. HARRIS has been elected attending surgeon of St. Luke's Hospital.

THE CONDITION of Dr. John G. Craig, who was recently struck by Panhandle engines—see last week's JOURNAL—is still serious.

TWO CASES of smallpox, imported from Columbia, Tenn., were discovered by Chief Medical Inspector Spaulding, January 8.

DR. D. D. EADS of Paris Ky., and Mrs. Annie L. Hartwell were married January 1. They will reside in Chicago.

DR. H. B. HEMENWAY will occupy the chair of preventive medicine in the College of Physicians and Surgeons during the remainder of the college year.

DR. W. A. EVANS addressed a meeting of the stockbreeders and dairymen, in session January 6, on the danger of milk taken from cows suffering from tuberculosis.

POSTAL CARD blanks for reporting all cases of contagious diseases are being supplied by the Health Department to every physician in the city.

THE NEW sanatorium of the Alexian Brothers' Hospital was formally opened last week. The new department contains the latest appliance for treatment by hydropathy, electrotherapy, massage and Swedish movement.

THE FUND for the erection of a hospital for consumptives is now $11,500, $1400 having been subscribed during the past week. It is intended to commence work on the structure when the amount reaches $25,000.

LOCAL physicians expect another epidemic of la grippe, as many cases have recently appeared. So far the disease has been of a mild type and has been confined to young children and persons over 60 years of age.

INSPECTION OF SCHOOLS.

Fifty medical inspectors of schools were assigned to their duties January 8. They were instructed by Dr. W. S. Christopher in their relations to the Board of Education. He informed them that they were not responsible for the medical treatment of children, but were simply to protect the schools against infection. Health Commissioner A. R. Reynolds instructed them as to the manner of conducting examinations.

MORTALITY STATISTICS.

The total mortality for the past week was 518, being an excess of 64 over that of the preceding week. This excessive number is due to the prevalence of pneumonia and bronchitis. These two diseases are accountable for 25.5 per cent. of the total mortality, there being 91 deaths from pneumonia and 41 from bronchitis. The mortality from diphtheria during the week is in excess of that of any week during the past year, there being 28 deaths from this cause, as compared with 27 the week previous.

MERCY HOSPITAL REPORT.

The Mercy Hospital has issued the golden jubilee number of its annual report, which contains a history of the institution since its foundation in 1850, and is embellished with a number of illustrations of the wards. The financial report shows that the total receipts for 1899 were nearly $90,000, and the expenditures were upward of $84,500. During the year 1948 patients were admitted.

THE DRAINAGE CANAL.

The partial opening of the Chicago Sanitary Drainage Canal for the purpose of filling the ditch, has already greatly improved the quality of the lake water and the appearance of the Chicago River to an extent unknown during the past thirty years. Contrary to the general opinion, the water has not yet been allowed to pass the gates at Lockport, which will not be opened until the latter part of the month. At a meeting of the trustees of the canal, January 8, Health Commissioner Reynolds outlined the results of his inspection during the summer, of the water taken at forty different points in the Illinois and Mississippi rivers. He stated that St. Louis would be benefited instead of injured by the channel; 10,000 samples of water were analyzed by the staffs of the University of Illinois and University of Chicago. Dr. Reynolds said that Bridgeport is contaminated to the extent of 95 per cent., at Joliet 85 per cent. at Ottawa there is an improvement of 65 per cent., and at La Salle the water is practically pure. The water at Peoria is said to be as foul as at Bridgeport. Then comes another gradual purification, and at Havanna 60 per cent. of the germs have disappeared, and when the fluid reaches Grafton, the junction of the Illinois and Mississippi rivers, it is practically pure again.

OHIO.

THERE were eight cases of smallpox at the isolation hospital, at Columbus, January 3.

DR. FRANCIS M. MICHAEL of Eaton is suffering from septicemia.

DR. W. E. RANZ, a graduate of the Miami Medical College, has been appointed assistant surgeon to the Soldiers and Sailors Home, Sandusky, Ohio.

CINCINNATI MORTALITY STATISTICS.

The mortality from contagious diseases shows a decrease of 39 over that of the past week. There were 4 cases of diphtheria, one of which was fatal; 14 cases of scarlet fever, 2 fatal; 6 of typhoid, 2 fatal; 1 of consumption, and 9 deaths.

REGISTERING AND EXAMINING BOARD.

At a meeting of the State Board of Medical Registration and Examination, held January 2, the following officers were reelected for the ensuing year: president, N. R. Coleman, Columbus; vice-president, H. E. Beebe, Sidney; treasurer, David Williams, Columbus; secretary, Frank Winders, Columbus.

DAMAGE SUIT FOR DISINFECTING.

Suit has been filed against the City of Toledo by a smallpox suspect who was confined in the city pest-house. He alleges that his house was entered by the health officials, who damaged his furniture by burning sulphur as a disinfectant, thereby causing a loss of $325, which he seeks to recover by legal procedure.

KENTUCKY.

A NEW pest-house for smallpox patients is building at Owensboro.

DR. I. M. POYNTZ of Richmond, president of the Madison County Board of Health, tendered his resignation as a member of that body January 4.

THE TRUSTEES of the Owensboro City Hospital have appointed the following physicians as a hospital staff: C. H. Todd, Wm. E. Irvin, D. M. Griffith, J. P. Heavrin, C. C. Lewis, S. S. Watkins, and E. B. McCormick.

EASTERN KENTUCKY INSANE ASYLUM.

The seventy-fifth annual report of the Asylum, Lexington, has just been issued. It contains one from the Board of Commissioners, suggesting that the name of the institution be changed to State Hospitals for the Insane; that the management of the charitable institutions of the state should not be subject to the mutations of politics, rather be governed by civil service; that the medical superintendent and steward be elected by the Board of Commissioners; the other appointees being appointed by the medical superintendent. The special appropriation of $30,000 has been expended, resulting in the completion of the infirmary in every detail. The number under treatment during the year was 1092. A calculation based on the whole number of patients shows that about 4 per cent. recovered. The mortality of the whole number cared for was 6.45 per cent.

STATE BOARD OF HEALTH.

The annual report of the secretary of the State Board of Health, prepared for the legislature, contains the reports of the county boards of health, a list of their members, and the laws under which the State Board acts. The secretary makes an urgent appeal for an increase in the annual appropriation of $2500. Comparison is made with the appropriation last year in the states of Texas, Massachusetts, Illinois and Louisiana, in each of which the appropriation exceeds $50,000. In order to keep pace with other states, it has been necessary for the four hundred physicians composing the county and municipal boards of health to serve entirely without compensation. The report deals exhaustively with the yellow fever and smallpox epidemics. The work of the Board in the former was very prompt and thorough. Inspection of all trains was thorough, baggage was disinfected, destination noted and reported to local health authorities. Only three cases of yellow fever developed in all the refugees who came to Kentucky, and not one in her own citizens. The first case of smallpox was in Jellico, Tenn., in January, 1897. A severe epidemic raged at Richmond and Middlesboro, Ky., chiefly because the work of the inspectors and vaccinators was not allowed to proceed, on account of the refusal of the county authorities to meet expenses. There were over 1500 cases reported in the state, the total cash cost of municipalities in the affected counties being $57,000. Attention is called to the question of vital statistics, in the following language: "Our statute regulating the collection of births, marriages, and deaths, important questions to any civilized people, is obsolete and wholly inoperative. Until the law is amended and vitalized, any compilation and publication of the returns would be worse than useless, as it would not only be unreliable, but misleading."

HEALTH OFFICER'S AUTHORITY.

Henderson, Ky., has just had a legal question decided of considerable interest: Dr. H. E. Griffith was vaccinated on Nov. 10, 1899, and on the 19th developed what he claimed was vaccinia. The health officer claimed it was smallpox, and made preparation to have him removed to the pest-house. Learning of this Dr. Griffith asked the court for an injunction against Mayor Thompson and Dr. Moseley to restrain them from removing him to the pest-house. The attorney for the defense claimed that Dr. Moseley was not even a member of the City Board of Health; that he was only acting under authority of a committee of the common council, and that the mayor had no right to appoint him. Judge Dorsey sustained the appeal for an injunction, gave the plaintiff his complete liberty, and gave his opinion that Dr. Moseley was not the legally constituted health officer of Henderson County.

Louisville.

DR. JOHN MASON WILLIAMS has returned from the Philippines and has tendered his resignation as acting assistant-surgeon. He served with the army in Cuba, then sailed for the Philippines last May, and had two weeks' active service with the troops at the front, returning to this country with wounded and sick, and then serving in the smallpox hospital at the Presidio, San Francisco, Cal., for several weeks.

THE SUPERINTENDENT of the City Hospital has submitted his annual report, showing that improvements have been made costing $5000. Recommendations are made for an additional ambulance and stable, a separate building for tubercular patients and one for contagious diseases of childhood. The cost for improvements and expenses he estimates at $40,000.

NEW YORK.

A BEQUEST of $5000 has been left to the Syracuse Woman's and Children's Hospital.

INVESTIGATION OF FOOD.

A bill has been introduced in the legislature which provides that the commissioner of agriculture shall investigate and examine the food and food products that are manufactured, sold and exposed for sale in the State of New York, and for that purpose appoint such agent or agents and employ such chemist, chemists or other experts as he may deem necessary. The sum of $10,000 is appropriated for the purposes of the act, which also specifies that the commissioner of agriculture shall report to the legislature on or before Jan. 15, 1901, the result of the examinations made, with recommendations as to such legislation as he may regard necessary for the corrections of evils existing relative to food or food products.

New York City.

ST. VINCENT'S Hospital has just put into service a thoroughly up-to-date horseless ambulance, which is propelled by an electric motor run by a storage battery. It cost about $3000.

AN AMBULANCE of the Hudson Street branch of the New York Hospital was recently wrecked in a collision with a Madison Avenue trolley-car, and the surgeon, and the driver were seriously injured.

HEATING OF CARS.

There have been so many complaints regarding both the overheating and underheating of street cars that the Health Department has sent out a number of inspectors with instructions to examine into the sanitary condition of both the elevated and surface railroad cars, and report. There is good ground for complaint, for it is no uncommon experience for passengers to ride for a time in a comfortably heated car and then be transferred to another car and be compelled to shiver for the rest of the trip. This shows that the weather can not be blamed, and it must be evident to all that changing to cars of widely differing temperature is an excellent method of provoking an attack of pneumonia.

FEES AND PATIENTS' TREATMENT.

Complaints having reached the superintendent of Bellevue Hospital that some of the house staff have been in the habit of accepting money from patients, and also that nurses and other employees have received tips, Charities Commissioner Keller has had promulgated a regulation that no employee of the Department of Public Charities shall accept from a patient or other inmate any sum of money, for any purpose whatever, except with the knowledge or consent of the superintendent of the institution in which the patient or inmate may be, and that any infraction of the rule will be punished with instant dismissal.

PENNSYLVANIA.

LEWISBURG, January 1, celebrated the establishment of a new water system. The supply is so arranged that three surrounding towns may be supplied by the same source.

BY THE will of Jacob Jay Vandegrift, of Pittsburg, $2500 has been left to the Allegheny General Hospital; $2500 to the West Penn Hospital, and $2500 to the Pittsburg Free Dispensary and $100 to the Home for Incurables, all of Pittsburg.

A MEETING of the Pennsylvania Medical Examining Board was held January 4 and 5, every member present. The examination papers of the different candidates who were examined at the June, 1899, meeting were carefully noted, and it is said will be embodied in a report to be filed at Harrisburg. The contents of this report has not been made known. The recent charges made relative to frauds committed by applicants before the Board, and mentioned in these columns, will be carefully sifted.

Philadelphia.

A LYING-IN hospital will be established by the Salvation Army here.

ON JANUARY 2 the alumni of the Jefferson Medical College gave a smoker to the students of that institution.

OWING TO the extreme cold weather, with consequent icy pavements during the week, an unusually large number of injuries has resulted and the hospitals have been kept very busy.

THE BUREAU of Health has given instructions to prosecute those persons guilty of selling milk which had been "watered." Another prosecution has been ordered by this department in the case of an undertaker who failed to state, in the funeral notice, that the person had died of a contagious disease.

THE number of deaths during the past week was 513, an increase of 51 over last week, and a decrease of 200 over the corresponding period of last year. The principal causes were: apoplexy, 9; nephritis, 39; cancer, 12; tuberculosis, 56; diabetes, 3; heart disease, 57; influenza, 8; peritonitis, 10; bronchitis, 16; pneumonia, 101; appendicitis, 2; septicemia, 2; suicide, 2; tetanus, 2.

THE BOARD of Health of Braddock borough, after being practically disbanded for some time, was reorganized January 3. The officers are: president, W. M. Carothers; secretary, John Richard; health officer, Frank P. Louis.

WORK OF BENEVOLENCE.

AT A recent meeting of the Mutual Aid Society of the Philadelphia County Medical Society resolutions were adopted expressing appreciation of the benevolent work of Dr. Albert Fricke, for the widows and orphans of the Society, of which he was an honored member. Dr. Fricke bequeathed $10,000 to the permanent endowment fund of the Philadelphia County Medical Society.

MEAT INSPECTION.

During 1899, 126,334 head of cattle and 50,089 calves were inspected: 255 head of cattle were condemned, 2 being affected with actinomycosis, 229 with tuberculosis and 24 with other diseases; 3063 calves were condemned as "monkey calves," and their sale for butchers' meat prevented; 7423 visits were made to slaughter-houses, and all markets were visited twice a week; 11 persons were arrested, among whom there were several convicted for selling unwholesome meat.

DISPENSARIES AND FREE SOUP.

At the present time five societies provide nourishing soup and bread for those who are in want. Such work has just begun and will continue for ten weeks. The city is districted so that all portions are covered. One of the societies was established as far back as 1836. The matron of one states that there has been a marked falling off in the number of applicants as compared with last year. Should the good times cause this falling off, there will be a corresponding decrease in the number of patients at the different free dispensaries of the city, since many of the ailments seen there are due to impure, or lack of, food.

MORTALITY STATISTICS.

Registrar Shaw of the Bureau of Health has submitted his report of the deaths for 1899. It shows that there were 23,796 deaths, or more than 6 per cent. more than in 1898, though the rate per 1000 of estimated population is considerably reduced. Of the whole number of deaths in 1899 there were 4560 under 1 year of age, 2496 between the ages of 1 and 5, and 5677 over 60 years. Of these, 145 deaths resulted from membraneous croup, 849 from diphtheria, 132 from scarlet fever, 146 from cerebrospinal meningitis, 2818 from tuberculosis, 2424 from pneumonia, 294 from influenza, 1482 from heart disease, 726 from cholera infantum and 766 from old age.

PAY HOSPITAL FOR CONTAGIOUS DISEASES.

A meeting of those interested in the establishment of a pay hospital for contagious diseases has been held. The Woman's branch of this hospital has been organized, and $4000 has already been subscribed. It is believed that an appropriate lot will cost $25,000 and a disinfecting plant $12,000. In order to raise funds for this purpose an entertainment will be given at the Hotel Walton on February 7.

DISTRICT OF COLUMBIA.

Washington.

THE COMMISSIONER of Pensions has appointed Dr. R. W. Baker and Dr. F. V. Brooks to succeed Drs. J. P. Burwell and A. C. Lattimer in the local medical pension examining board.

IN CONGRESS.

The following bills have been introduced during the present session of Congress: Senate No. 34, for the further prevention of cruelty to animals in the District of Columbia—the anti-vivisection bill, printed elsewhere in this number of THE JOURNAL—by Senator Gallinger. Senate No. 1782, to issue warrants to acting assistant-surgeons of the U. S. Army, who served as medical officers either in the late Civil War or the Spanish-American War or the Philippine rebellion, by Mr. Platt of New York—see THE JOURNAL of Dec. 9, 1899, p. 1506. House of Representatives, No. 4476, providing for the appointment of members of the medical profession on the board of appeals in the office of the U. S. Secretary of the Interior, to whom shall be referred all medical and surgical questions, by Mr. Young of Pennsylvania. House of Representatives, No. 4483, for an increase in the medical department of the army, by Mr. Emmerson—*loc. cit.* House of Representatives, No. 4618, for the establishment of a food bureau in the U. S. Department of Agriculture, and for preventing the adulteration and misbranding of foods in the District of Columbia and the territory, and for regulating interstate commerce therein and for other purposes, by Mr. Babcock. House of Representatives, No. 5256, to appropriate $55,000 for the repair of the Army and Navy General Hospital at Hot Springs, Ark., by Mr. Little. House of Representatives, No. 5270, providing for the erection of a convalescent hospital at Vancouver barracks, State of Washington, by Mr. Jones. This bill provides an appropriation of $175,000, to be available immediately, for a hospital for the reception of sick soldiers returning from the Philippines, the work and money expended to be under direction of the U. S. Secretary of War.

MARYLAND.

REPORT ON FEEBLE-MINDED.

The sixth biennial report of the board of visitors of the Maryland Asylum and Training School for Feeble-Minded Children, shows that the institution is making rapid strides. It has 94 inmates. The buildings have been enlarged and several new ones erected. Attention is drawn to the fact that the institution gives accommodation to but a small proportion of the feeble-minded children in the state, yet it is overcrowded, and appeals for admission have to be refused. The managers have proposed plans for enlargement to a capacity of 500, and an appropriation of $125,000 a year for the next two years will

be asked from the legislature, now in session. The inmates are given a thorough mental training, and there is also an industrial department. A number were so improved during the year as to warrant their discharge.

Baltimore.

THE ANNUAL dance of the nurses of the Maryland University Hospital was held on the 5th inst. Luncheon was served.

AN APPROPRIATION of $576 has been allowed the Health Department for the purchase of diphtheria antitoxin.

MR. CHARLES ADLER has given the Hebrew Orphan Asylum and Hebrew Hospital each $500 in memory of his wife, who died recently.

THE UNIVERSITY of Maryland has 318 students in its medical school with 200 dental and the same number of law students. The Woman's Medical College has 22 enrolled.

WORK IN the chemical laboratory of the Johns Hopkins University, recently burned, was resumed on the 4th inst., the building having been temporarily repaired.

THE FLINT CLUB.

The Flint Club, composed of physicians, and named after the late Prof. Austin Flint, held its annual meeting and banquet on the 4th inst., Dr. James Bosley presiding. Speeches were made by the Mayor of Baltimore and others. The club never elects officers, the members filling the various offices in alphabetic order. Meetings are held once a month, and during the year each member is required to tell a story, write a poem or sing a song. No words of over four syllables can be used in any of these.

ABOLISHMENT OF HEALTH DISINFECTORS.

In the sweeping retrenchments made by the new administration of Baltimore, many offices are being abolished and salaries being cut down. Among the abolished positions are those of the disinfectors of the Health Department. The mayor directs that the work of disinfection be done hereafter by the sanitary inspectors. The health commissioner urges that the work now devolving on the latter occupies their time fully and renders it impossible for them to assume any additional duties. They now inspect nuisances, prosecute cases, and take charge of the city's sick. The mayor insists that they assume also the work of disinfection, as was done prior to 1895.

Correspondence.

Trip to Paris.

OTTAWA, ILL., Jan. 10, 1899.

To the Editor: The committee having in charge the proposed European excursion for the Illinois, Iowa and Missouri state medical societies has just completed its arrangements for the ocean voyage. We shall place our party in charge of Hon. Frank C. Clark, of New York City, who has had a large and successful experience in conducting tourists all over the world. We have assured ourselves that all accommodations will be first-class; and that everything will be done to make the trip an ideal one. The steamship *City of Rome* has been chartered for our party, and will sail from New York, June 30, 1900. The main trip will occupy thirty-eight days, at a cost of $260, all necessary expenses included. Or if a more extended trip is desired, provision is made for a week in Switzerland and down the Rhine for $70 additional; also a fourteen-day trip through Italy for $100 additional. Tickets are good for one year.

The European tourist next year will be subjected to more than the usual crowding on steamers, at hotels, extortions and annoyances which detract so much from the pleasure of a tour in foreign countries. These we have anticipated and provided against. No more passengers will be booked than can be comfortably accommodated.

For further particulars, address, J. W. PETTIT, M.D.,
Member of Committee of Arrangements for Illinois State Medical Society.

Quackery in West Virginia.

CLARKSBURG, W. VA., Jan. 5, 1900.

To the Editor: The physicians of this state are making a determined fight against all forms of quackery. We are not making any criticisms in regard to any system of medicine, but are desirous of requiring all who practice medicine to conform to the laws of our state. For the past two years we have had a great deal of trouble with osteopaths and "Christian Science" practitioners, inasmuch as they refuse to take the examination, claiming that they are not practicing medicine. The statute of our state is very plain, and we now have an indictment against these people which we are desirous of pushing to the bitter end. Will you or your readers send me any court decisions bearing directly or indirectly on matters of this and similar character? Should any be sent by express, please send via the United States Express Co., if that be practicable. I am willing to pay all expenses in connection with procuring evidence of this character. Thanking you for your kindness, I am,

Yours very truly, M. P. GOFF, M.D.

[We would refer our correspondent to the decision against one of the current fads in another part of this issue.—ED.]

Pathologic Exhibit of A. M. A.

WASHINGTON, D. C., Jan. 3, 1900.

To the Editor:—My attention has been called to the proposition to establish a national pathologic exhibit in connection with the meetings of the AMERICAN MEDICAL ASSOCIATION, and I write you to say that I most heartily concur in the belief that it would prove of interest and value to the members of the ASSOCIATION.

This Hospital has a large number of interesting pathologic specimens which we will gladly furnish to assist in such an exhibit, and I am sure there are many similar institutions throughout the country that would be able to contribute matter of decided value and interest also. I hope that all those interested in the subject of pathology will co-operate to make this proposed departure a success, and creditable to the AMERICAN MEDICAL ASSOCIATION, Very truly yours,

A. B. RICHARDSON, M.D.,
Superintendent Government Hospital for the Insane.

Canada.

(From Our Regular Correspondent.)

TORONTO. Jan. 6, 1900.

DR. MINNIE GOMERY will leave Montreal shortly as a medical missionary for India.

THE TRUSTEES of Notre Dame Hospital, Montreal, are contemplating the erection of a new building possessing all the most modern and approved appliances.

DR. RUTTAN, registrar of the medical faculty of McGill, has returned to Montreal after inspecting the teaching appliances in the medical colleges in New York, Boston, Philadelphia and Baltimore.

A YOUNG man in Toronto has gone insane over the war in South Africa.

DR. JAMES BELL, Montreal, will read the address in surgery at the next meeting of the Medical Society of Nova Scotia, to be held at Amherst, July 4 and 5, 1900.

DR. MAUDE E. ABBOTT, assistant curator, pathologic museum McGill University, has left on a visit of inspection to some of the medical museums of the United States, including New York, Baltimore, Washington and Philadelphia.

WHILE carrying a bottle of ether to the sink in a Toronto engraving house, a young man had occasion to pass the furnace. The heat from the furnace ignited the bottle of ether and the man was very badly burned about the face, arms and shoulders.

TORONTO VITAL STATISTICS.

The vital statistics for this city during the year 1899 show a decrease of 115 births and an increase of 423 deaths over the figures of the preceding year. Marriages show an increase of 145. The birth-rate of Toronto is now at the figures recorded ten years ago. The totals for 1899 are: births, 4007; marriages, 1841; deaths, 3294.

ASYLUM AT FALCONWOOD, P. E. I.

Before the final report of the commission of inquiry into the irregularities at the P. E. I. provincial asylum has been handed in to the government, the visiting superintendent, Dr. Blanchard, who has had the medical supervision of this institution for the past twenty-five years, has been dismissed by the government, his dismissal to take effect in February.

SMALLPOX IN QUEBEC.

Dr. Beaudry, inspector of the Provincial Board of Health, Montreal, who has been in charge of the work of suppressing smallpox in Kamouraska and Matane counties, Que., states that the disease has not yet been stamped out in those districts, though it is well under control. Three new cases have developed, and he is afraid it will be well on toward spring before the disease will be completely stamped out.

DISEASE IN CITY DUST.

Montreal can condemn herself for being far behind the other cities of the world in the matter of laying good pavements and keeping her streets free from filth. It seems to be well borne out by facts that much of the sickness prevailing in that city during all seasons of the year can be traced to the dirty condition of the streets, and there seems to be no doubt that many deaths have resulted therefrom.

RE VITAL STATISTICS IN MONTREAL.

Dr. Laberge, M.H. O., has been endeavoring to have all births in the city reported direct to the health office. The following is the communication of the city's solicitor to the local board of health on the subject: "A draft of by-law concerning the reporting of births in the City of Montreal, to the Medical Health Officer, by all physicians or other persons therein specified, having been submitted for our approval, we have the honor to inform you that we are of the opinion that the city's power with respect to the reporting of births is not sufficiently well-defined. by the Charter, to permit of the adoption of such a by-law by the City Council." At the approaching session of the Quebec legislature an endeavor will be made to have the city's charter amended, so that the city council will then be able to pass a by-law as desired by the medical officer.

PATENT MEDICINE IN A COURT OF LAW.

Judgment has been given in Montreal, in a case arising out of an infringement of rights to the use of a certain "doctor's" name in connection with certain medicinal preparations, which we presume are foreign to regulars. The plaintiff took the action, claiming that the defendants were using the name of the doctor to certain pills, the plaintiff asserting that he had purchased the sole right to use this name, from the heirs of the late physician. The judge found that the defendants were misleading the public, as the pills were purported to have been prepared from one of the physician's prescriptions, and its use by others than the rightful owner would therefore be illegal. For these reasons the plaintiff was granted an injunction prohibiting his competitors manufacturing pills with that name or using that name in connection with their manufacture. Damages were not assessed.

CONTAGIOUS DISEASE IN CHARLOTTETOWN, P. E. I.

At a meeting of the Board of Health of this city, the 26th ult., the following resolution was carried unanimously: "That it is the determination of this Board of Health, that in order to prevent the spread of diphtheria in this city, the regulations of the Board and the provisions of the Statute constituting boards of health be strictly carried out by the Health Officer, and the penalties for the breach of such regulations be strictly enforced: and that Sections 1, 2 and 19 of the Rules and Regulations be published, viz: Any householder in whose house in the City of Charlottetown, there shall occur a case of smallpox, cholera, diphtheria, scarlatina, scarlet fever, typhus fever or typhoid fever, shall immediately notify the Board of Health, through its health officer or secretary. 2. When a physician knowns or suspects that any person to whom he has been called is sick of, or has died of, any of the diseases named in Rule 1, he shall immediately notify the Board of Health through the secretary or the health officer. 3. Every physician who has been furnished with proper blanks for the purpose stated shall immediately make such returns as the said blank shall indicate. to the health officer or the secretary.

UNSANITARY HOTELS IN ONTARIO.

The new provincial secretary of Ontario is setting himself out to clean up the rural hotels of the province. Circular letters are being sent to the respective license inspectors or commissioners to impress on landlords holding hotel licenses the desirability of making their places comfortable and wholesome for the traveling public. It is not thought that much expense will be thus thrown on this class of the community by putting their premises in a more sanitary condition, and the inspectors are instructed to report to the department from time to time, on the condition of these places in their immediate jurisdiction, and to probably withhold licenses to those who will not meet the requirements of the health of the traveling public in this particular. A copy of the circular is also being sent to the members of the Dominion Travelers' Association, seeking their co-operation, asking for complaints and, further, for them to give expression to suggestions whereby the condition of the hotels might be improved and their own comfort more adequately provided for.

Association News.

Section on Laryngology and Otology.—Members of the AMERICAN MEDICAL ASSOCIATION are cordially invited to contribute papers to the Section on Laryngology and Otology at the next meeting, in Atlantic City, June 5-8, 1900. Owing to the large membership it is necessary for those who desire to be on the program to arrange with the Secretary of this Section at once, in order that place may be reserved for them. According to the rules adopted by the Executive Committee, at Columbus last year:

The number of papers to be read will be limited to forty, each paper not to occupy more than fifteen minutes in reading.

Three addresses by special invitation may be obtained, at the discretion of the officers, from within or without the ASSOCIATION.

Papers are to be accepted in the order of their reception and at the discretion of the Executive Committee. Abstracts of all papers must be sent to the Secretary before May 1, 1900.

Discussions are to be limited to five minutes each.

The sending of the abstract is very important, in order that it may be published in the program, thus facilitating intelligent discussion. An early sending of titles of contemplated papers will be greatly appreciated. No titles can be received after January 28. Christian R. Holmes, Chairman, Cincinnati, Ohio; J. A. Stucky, Secretary, Lexington, Ky.

Deaths and Obituaries.

WM. A. HAMMOND, M.D., surgeon-general U. S. A., retired, died suddenly at his residence in Washington, D. C., on the 6th inst., from heart disease. He was born at Annapolis, Md., Aug. 28, 1828, and was the son of Dr. Jno. W. Hammond. His early education was received at Harrisburg, Pa., whence he subsequently went to New York City, entering the University of New York, from which he was graduated in medicine in 1848. He subsequently studied clinical medicine at the University of Pennsylvania. He was appointed assistant-surgeon in the U. S. Army in 1849. He served three years in Europe and eleven in the West, during which time he made a special study of physiologic chemistry, writing a number of essays on the subject and receiving for one, "Albumen, Starch and Gum as Food," first prize from the AMERICAN MEDICAL ASSOCIATION. In 1861 he resigned his commission in the army to accept the chair of anatomy and physiology in the University of Maryland, but resigned that when the Civil War broke out, re-entering the army as assistant-surgeon. His advancement was rapid and his service brilliant, and in 1862 he was appointed surgeon-general with rank of brigadier-general. He is said to have been the originator of the army ambulance corps and the founder of the Army Medical Museum. In 1864 he was court-martialed and dismissed from the army for alleged irregularities in the awarding of certain Government contracts. He subsequently went to New York City, and engaged in private practice, making a specialty of diseases of the nervous system. From 1867 to 1873, he was professor of diseases of the mind and nervous system in Bellevue Hospital, and was afterward elected to a similar chair in the University of New York, where he remained until 1882, when, with others, he founded the New York Post-Graduate Medical School, becoming a professor therein. He was the author of a number of works

among which were "Physiological Memoirs," "A Treatise on Hygiene," "Wakefulness," "Insanity in its Medicolegal Relations." He was one of the originators of the *N. Y. Medical Journal* and edited the *Quarterly Journal of Physiological Medicine and Medical Jurisprudence.* In 1898, a bill authorizing the President to review the proceedings of the court-martial and, if justice demanded, to reinstate Dr. Hammond, was passed by Congress. The bill was approved by the President the following year and Dr. Hammond was restored to his place on the army rolls as brigadier-general and surgeon-general retired. He was buried at Arlington National Cemetery on January 8, with full military honors.

WM. H. RANDALL, M.D., Augusta, Iowa, died on the 23d ult., aged 60 years. He was a graduate of Castleton (Vt.) Medical College, class of 1857, and during the Civil War enlisted as private in the 11th Massachusetts Infantry, being later commissioned as second assistant-surgeon of the 19th Maine Infantry, and then made surgeon of the regiment, serving as such until the close of the war.

CHAUNCEY P. LANDON, M.D., Westerville, Ohio, aged 73 years, died on the 30th ult. He was a graduate of Starling Medical College, class of 1849, and one of the founders of the Central Ohio Medical Society. He was also one of the oldest members of the Ohio State Medical Society, and twice its president. During the Civil War he was surgeon of the 133d Ohio Volunteer Infantry.

CHARLES STONER SHAW, M.D., Allegheny, Pa., died in Albuquerque, N. M., the 28th ult. He was a graduate of the medical department of the University of Pennsylvania, class of 1879, and physician to the Roselia Foundling Asylum and the Pittsburg Hospital for Children.

Miscellany.

Subject for Comment.—On the appeal of the City of Warsaw vs. Fisher, the appellate court of Indiana holds, two justices dissenting, that in an action for personal injuries counsel for the defendant may comment on the omission of the plaintiff to call as a witness the physician who attended him. It cites as having adjudications to the same effect, Michigan, Missouri, New Hampshire, and New York.

Proof of Insanity of a Criminal Revealed After Conviction.—The conference of the lawyers connected with the Paris court of appeals recently discussed, and decided in the affirmative, the question whether proof of the insanity of a criminal at the "time of the deed," revealed after his condemnation, should be entitled to rank as a *new fact* allowing the revision of the process.

Phototherapeutics with Acetylene.—Extremely satisfactory results are reported by Colleville, in the *Gaz. Hebd.*, 1899, 80, with the therapeutic application of acetylene gas in the form of "acetylith," a new, comparatively odorless product. The lamp is enclosed in a kind of magic lantern with a blue-violet glass in front of the lens to exclude the heat rays. Of the five cases treated three were varicose ulcers, one malus perforans and one ulcus tuberculosum.

Fractures and Radiography.—For the last year and a half Tuffier has had every fracture radiographed before treatment and after the dressings have been applied, and has kept a careful record of the subsequent functional results. He finds, to his astonishment, that in numbers of cases in which the reduction has been clinically perfect and the functional results most satisfactory, the reduction of the bones has in reality been far from perfect. He notes (*Semaine Med.*, Dec. 20, 1899) that it is necessary to insert the stitches as close as possible to the fractured surfaces in suturing bones, to prevent slipping.

The Index.—The closing number of THE JOURNAL of the AMERICAN MEDICAL ASSOCIATION for the second half of the year 1899 contains another instance of its progressive development, in the shape of the index. Besides the usual index matter, there is a special index containing the titles of the abstracts of all the original contributions appearing throughout that period in the principal American medical journals. Following this is a list of authors whose communications are thus dealt with. The great value of this arrangement will be at once evident if we think what a help it would be to us remembering the title of some paper, or remembering that some particular author had written a paper whose title we fail to recall, but the subject-matter of which impressed us. By the use of one or other of these indices, according to circumstances, we can track the paper to its abstract lair, and thence ascertain the journal in which the original appeared.—*N. Y. Med. Jour*, January 6.

Health in Michigan.—Reports for the four weeks ending Dec. 30, 1899, give rheumatism, neuralgia, bronchitis, tonsillitis and influenza as the five most prevalent diseases. Compared with the preceding month, pneumonia and influenza increased and remittent fever decreased in area of prevalence, at the state capital. Throughout the state, consumption was reported at 3 places more, scarlet fever at 13 less, typhoid fever 70 less, measles at 22 more, diphtheria at 18 less, whooping-cough at 1 more, smallpox at 6 less, and cerebrospinal meningitis at 2 places less than in the preceding month.

Pityriasis Rosea.—In the *Jour. of Cut. and Gen.-Urin. Dis.*, January (p. 43), a case of this affection, of interest because it began on the face, thence extending down over the neck and trunk, is reported. Attention is also called to a diagnostic point in differentiating this from an early macular syphilide or other macular eruption, viz., painting the area where the lesions are scarcely perceptible, with Lugol's solution, when the patches and rings will come out and appear of a mahogany color. This reaction does not result in the usual erythematous eruptions, unless there is desquamation, and even then the stain takes less deeply. The test should be applied during the first stages, and is of especial value in avoiding confusion with roseola syphilitica.

Diseases in Philippines.—In an address recently delivered in Baltimore, Md., by L. F. Barker, on some phases of his Philippine trip, he said that the most fatal diseases there are smallpox, typhoid fever, malarial and intestinal troubles. Smallpox, before the arrival of the American, was regarded by the natives as measles is by us, it is so common; but in a few months it was almost stamped out by vaccination. Intestinal troubles are very fatal, death usually resulting after forty-eight hours. If the bacillus can be found, it is likely this can be largely prevented and the efforts of the party the Doctor accompanied, were directed to this with, they believe, success. Good fish is the best food, but bad is the cause of much of the sickness. Ice baths and cold baths must be avoided and one must take the Spanish siesta from 2 to 4 p. m. daily.

Microbes in Holy Water.—Abba, one of the health officers of Turin, Italy, has recently made examinations of the holy water contained in the fonts inside the entrance doors of sacred edifices. Thirty-one specimens from as many churches were analyzed, and the results have more than confirmed his anticipations that this water may be an effective means of transmitting disease. Attention is called to the matter by the *Lancet's* Rome correspondent, in the issue of that journal for Dec. 23, 1899. The water is exposed to the dust that finds free access to the interior of the church, is dipped into by the fingers of the worshipers on Sundays and week days, morning, noon, and night, and the fonts are rarely cleaned. Concerning his recommendation of a weekly washing and disinfection of the pillars from which the fonts project, and of the fonts themselves, and the treatment of the water with antiseptics, the church press expresses marked indignation, condemning the suggestion as "antiritual" and "not free from grave objections."

Injuries from Roentgen Ray Treatment.—Gassmann and Schenkel write to *Fortschritte a. d. Geb. der Roent.* ii, describing four cases of lupus which developed circumscribed ulcers after the usual Roentgen treatment, requiring transplantation in two cases, and in one a peculiar progressive gangrene appeared four weeks after treatment, when the region was almost entirely healed over, commencing in the center and not invading the outer limit for four months. Study of the ulcerations showed a remarkable thickening of the intima of the

vessels, even in the capillaries, but most pronounced in veins and arteries, narrowing the lumen. The intima was dotted with numerous vacuoles generally filled with a reticular mass of delicate fibers. The membrana elastica and in the larger vessels also the externa, were split up into a tangle of irregular fibers, some projecting into the intima. The muscularis was also dotted with numerous vacuoles, and some of the fibers were compressed by the vacuoles and degenerated. This new phenomenon explains the injury from the Roentgen treatment in certain cases, and the slow process of the necrosis, as the deep blood-vessels still contain blood notwithstanding their commencing degeneration. The only successful treatment would be prompt and radical extermination of all the tissue-containing vessels affected with degenerative processes.

Fractures of the Skull.—According to *Muench. Med. Woch.*, Dec. 12, 1899, Habart operates at once on all complicated fractures of the skull,excising all scars in the region of the motor centers, and preventing further irritation by inserting a celluloid plate, which in every case has healed in place without reaction. Epilepsy has become very rare among patients thus treated. In a recent series the frontal or parietal bone had been fractured by a kick from a horse; splinters driven into the dura or brain; wound soiled with horse manure and hairs; coma; collapse. The iodoform tampon was used for ten days, and then the celluloid plate, with rapid and complete recovery in each of the three cases. In a case of paralysis of the lower extremities, bladder and rectum, after a fall from a third story and fracture of the tenth to twelfth dorsal vertebræ, the operation two years later cured the paralysis of bladder and rectum. The patient is progressively improving and can now walk a few minutes at a time. The operation consisted in resecting the arches and spinous processes of the fractured vertebræ, and removing the thickened portion of the cord, pachymeningitis hemorrhagica and sheets of bony deposits, with scissors or curette, which allowed the compression myelitis to heal. The lost bone was substituted by a celluloid plate, 10 by 4 cm.

Deafness and Children of Deaf-Mutes.—Recently, before the Johns Hopkins Scientific Association in Baltimore, Md., Dr. William K. Brooks spoke on inherited deafness, and controverted a report of Prof. Alexander Graham Bell, who said that while it is commonly believed that most of the deafness is found in the children of deaf-mutes, it is, in fact, found oftener in the children of hearing parents who have deaf relatives. He attributed much of the deafness to the hearing of deaf-mutes, and said that when the parents are normal, the rate of deaf-mute children is 1 in 10,000, while 1 child in 10 of deaf-mute parents is a deaf-mute. He said that only 1.5 per cent. of the children born to deaf-mute parents will be deaf unless they have deaf-mute relatives, while 33 per cent. of those having deaf-mute relatives will be deaf. Twenty years ago, Dr. B. made this assertion in a report for an English scientific society, on the conditions necessary for inherited deafness. The lapse of time has confirmed him in this belief. Moreover, a larger proportion of children from hearing parents having deaf relatives will be deaf than those of deaf-mute parents. The most dangerous marriage of all is one that is consanguineous, where a deaf-mute with a deaf relative marries a deaf relative.

Our Army Surgeons.—The *Army and Navy Journal*, January 6, in an editorial under the above heading urges the passage of the bill to increase the medical department of the army. It reviews the duties of the army surgeon as a sanitary officer and as a physician and surgeon and concludes as follows.

We are coming nearer every year to the true appreciation of the heroic part of the surgeon's labors. We are more clearly seeing that the hand that wields the alleviating scalpel, or administers the soothing potion, may strike as nobly for victory as the colossal figure striding up and down the firing line. During the epidemics of fever in the Spanish War, our surgeons worked day and night, debilitating their systems until in many cases they themselves fell victims to the disease. Those were sacrifices of patriotism not the less noble because made without the stimulus of momentary excitement and for the salvation of others. Perhaps it would not be altogether unfortunate if the bill should cause some debate in Congress, to the end that the champions of our army surgeons might place before the country the real service they have done and the greater service a wise provision now will enable them to perform in the greater days to come.

No training so nearly simulates the soldier's as that of the medical profession. The doctor must hold himself at all times in readiness for the call of duty, as the soldier does, and must, like the soldier, accept without complaint or hesitation the risks to life and health attending the discharge of duty. It is not alone on the field of battle that the medical man runs these risks. They come to him in the course of an ordinary medical practice; he must often go where he will permit no one else to go, because of the danger of infection from deadly disease. The record of army surgeons, from the days of Napoleon's Baron Larrey until now, has been one that honors their profession and dignifies humanity.

The Gallinger Antivivisection Bill.—Mr. Gallinger introduced the following bill in the Senate of the United States, Dec. 6, 1899 (S. 34), which was read twice and referred to the Committee of the District of Columbia:

A BILL FOR THE FURTHER PREVENTION OF CRUELTY TO ANIMALS IN THE DISTRICT OF COLUMBIA.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter no person shall perform on a living vertebrate animal any experiment calculated to give pain to such animal, except subject to the restrictions hereinafter prescribed. Any person performing or taking part in performing any experiment calculated to give pain in contravention of this Act shall be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment for a period not exceeding six months.

Section 2.—That the following restrictions are imposed by this Act with respect to the performance on any living vertebrate animal of an experiment calculated to give pain to such animal; that is to say:

a. The experiment must be performed with a view to the advancement by new discovery of physiological knowledge or of knowledge which will be useful for saving or prolonging life or alleviating suffering; and

b. The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, or by a duly authorized officer of the Government of the United States, or of the District of Columbia; and

c. The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain, excepting only that in so-called inoculation experiments or tests of drugs or medicines, the animal need not be anesthetized nor killed afterwards, nor in tests of surgical procedure need animals be kept completely anesthetized during the process of recovery from the surgical operation. Otherwise than this the animal must be kept from pain during all experiments; and

d. The animal must, if the pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anesthetic which has been administered; and

e. No experiment shall be made upon any living creature, calculated to give pain to such creature, in any of the public schools of the District of Columbia; provided as follows, that is to say:

1. Experiments may be performed under the foregoing provisions as to the use of anesthetics by a person giving illustrations of lectures in medical schools, hospitals, or colleges, on such certificate being given, as in this Act hereafter mentioned, that the proposed experiments are absolutely necessary for the due instruction of the persons to whom such lectures are given, with a view to their acquiring physiological knowledge or knowledge which will be useful to them for saving or prolonging life or alleviating suffering; and

2. The substance known as urari or curare shall not, for

the purposes of this Act, be deemed to be an anesthetic; and

3. Notwithstanding anything in this Act contained, no experiment calculated to give pain shall be performed on a dog or cat, except upon such certificate being given, as in this Act mentioned, stating, in addition to the statements hereinbefore required to be made in such certificate, that for reasons specified in the certificate the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution and habits to a cat or dog, and no other animal is available for such experiment; and an experiment calculated to give pain shall not be performed on any horse, ass, or mule, except on such certificate being given, as in this Act mentioned, that the object of the experiment will be necessarily frustrated unless it is performed on a horse, ass, or mule, and that no other animal is available for such purpose; and

4. Any exhibition to the general public, whether admission be on payment of money or gratuitous, of experiments on living animals calculated to give pain shall be illegal.

Any person performing or aiding in performing such experiment shall be deemed to be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment not exceeding six months; and any person publishing any notice of any such intended exhibition by advertisement in a newspaper placard, or otherwise, shall be liable to a penalty not exceeding ten dollars.

A person punished for an offense under this section shall not for the same offense be punishable under any other section of this Act.

Section 3.—That the Commissioners of the District may insert, as a condition of granting any license, a provision in such license that the place in which any such experiment is to be performed by the licensee is to be registered in such manner as the said Commissioners may from time to time by any general or special order direct: *Provided*, That every place for the performance of experiments for the purpose of instruction shall be approved by the said Commissioners, and shall be registered in such manner as the said Commissioners may from time to time by any general or special order direct.

Section 4.—That the Commissioners of the District, upon application as hereinafter prescribed, may license any person whom they may think qualified to hold a license to perform experiments under this Act: *Provided only*, That a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

Section 5.—That the Commissioners of the District may direct any person performing experiments under this Act from time to time to make reports to them of the methods employed and the results of such experiments, in such form and with such details as the said Commissioners may require.

Section 6.—That the President of the United States shall cause all places where experiments on living vertebrate animals are carried on, in the District of Columbia, to be from time to time visited and inspected without previous notice for the purpose of securing compliance with the provisions of this Act; and to that end shall appoint four inspectors, who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him.

Section 7.—That any application for a license under this Act, and for a certificate to be given as in this Act mentioned must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this Act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant.

A certificate under this section may be given for such time or for such series of experiments as the persons signing the certificate may think expedient.

A copy of any certificate under this section shall be forwarded by the applicant to the Commissioners of the District, but shall not be available until one week after a copy has been so forwarded.

The Commissioners of the District may at any time disallow or suspend any certificate given under this section.

Section 8.—That the powers conferred by this act of granting a license or giving a certificate for the performance of an experiment on living animals may be exercised by an order in writing, under the hand of any judge of a court of record having criminal jurisdiction in the District, in a case where such judge is satisfied that it is essential for the purpose of justice in a criminal case to make such experiment.

Dental Anomalies in Hereditary Syphilis.—Galippe recently exhibited some casts of teeth, proving that the "Hutchinson types" may be encountered in persons absolutely free from any syphilitic taint.

Queries and Minor Notes.

PHYSICIANS' TRIP TO PARIS.

BALTIMORE, MD., Dec. 30, 1899.

To The Editor.—It is reported that 300 Western physicians have chartered the *City of Rome* for a voyage to Paris, with the object of attending the International Medical Congress and the exposition. Could you inform me who is the proper person to address concerning this plan? Yours cordially,

J. C. HEMMETER, M.D.

ANSWER.—Write to J. W. Pettit, Ottawa, Ill., member of the Committee of Arrangements for the Illinois State Medical Society, or Dr. J. W. Cokenower, Des Moines, Iowa, secretary of the Iowa State Medical Society.

ASEPTIC OR ANTISEPTIC.

NORWICH, N. Y., Jan. 2, 1900.

To the Editor.—A collapsible tube, previously sterilized, is filled with an antiseptic ointment and immediately hermetically sealed. The peculiar office of this container is to protect its contents against the invasion of the atmosphere with its attendant micro-organisms. May a tube thus used be correctly termed antiseptic? We have been for many months—and with the best intention in the world—advertising one of our preparations as "An Antiseptic Dressing in an Antiseptic Container." Now a prominent physician calls us down—says the tube is aseptic, not antiseptic. Will you kindly set us right? Very truly yours,

N. P. Co.

ANSWER:—According to the accepted definition of the terms "antiseptic" and "aseptic," it would appear that the phrase, "An Antiseptic Dressing in an Antiseptic Container, would be verbally correct. Foster, in his Medical Dictionary, defines the former as "Preventing or checking putrefaction or septic infection," which might as well apply to any germ-proof receptacle as to a chemical reagent. At the same time we could not correctly say of the vessel that it is "aseptic," a term defined as "free from putrefaction and its causes," unless it has been externally as well as internally disinfected and remained in that state. In the choice of words it would seem that only "antiseptic" can be properly used. Surgically there has lately come into use an application of these terms that is not exactly in accord with the above definition, and this may cause confusion. "Antisepsis" is thus sometimes used simply as meaning the destruction or counteraction of sepsis as opposed to "asepsis" in its proper sense. It really means more—it means protection of aseptic substances from sepsis, as well as its destruction, and in this sense its application to a germ-proof container is correct.

PRACTICE IN FRANCE.

AKRON, OHIO, Jan. 6, 1900

To the Editor.—In your issue of Dec. 30, 1899, you write editorially of "Practice in France." I would like to know the laws regulating practice there, more fully than put forth in your article. Will you kindly give me the steps necessary for an American graduate to secure the right to practice in France for the benefit of English-speaking people attending the exposition.

Respectfully yours, G. M. T.

ANSWER:—To practice medicine in France the possession of a diploma from a French faculty (Paris, Montpellier, Nancy, Bordeaux, Lyons, Lille, or Toulouse) is requisite, and it must have been obtained in the same way as by the French students, that is, the preliminary studies and the full professional curriculum must have been passed. It is possible, we believe, for foreigners to obtain a French diploma, not entitling them to practice, by showing qualifications and paying a heavy fee, but this is purely honorary, and conveys no professional rights.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., Dec. 22-27, 1899, inclusive:

Samuel T. Armstrong, major and surgeon, Vols., from the Division of Cuba to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner*, sailing on or about Jan. 15, 1900, for Manila, P. I., where he will report for duty with the 8th Army Corps.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., from Fort Reno, Okla., to the Department of California.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U. S. A., previous orders to California revoked; he will report for duty to the superintendent U. S. Military Academy, West Point, N. Y.

James H. Hysell, major and surgeon, Vols., leave of absence extended.

Richard W. Johnson, major and surgeon, U. S. A., from duty at Chicago, Ill., to the Department of California.

Edward Lyon, Jr., acting asst.-surgeon, relieved from further duty in the Division of Cuba, to report to the surgeon-general, Washington, D. C., for orders.

G. A. McHenry, acting asst.-surgeon, leave of absence granted.

Edward L. Munson, captain and asst.-surgeon, U. S. A., to Philadelphia, Pa., in connection with the construction of new hospital tents at the clothing depot, Schuylkill arsenal.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Fort Reno, Okla.

Henry I. Raymond, major and surgeon, Vols., relieved from further duty in the Department of the Pacific and 8th Army Corps, to be assigned as attending surgeon and examiner of recruits at Chicago, Ill.

George B. Story, acting asst.-surgeon, from Fort Canby, Wash., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Dec. 30, 1899.

Surgeon H. E. Ames, order of December 20 modified; ordered to duty in connection with fitting out the *Kearsarge*, Newport News, Va.

Asst.-Surgeon E. J. Grow, detached from the *Massachusetts* and ordered to the *Dixie*.

Medical Inspector M. H. Simons, ordered to Cleveland, Ohio, for recruiting duty.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Dec. 28, 1899.

Surgeon H. W. Sawtelle, granted leave of absence for 30 days.

Surgeon W. P. McIntosh, granted leave of absence for 5 days.

P. A. Surgeon J. C. Perry, to proceed to Amoy, China, for special temporary duty.

P. A. Surgeon M. J. Rosenau, to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon A. R. Thomas, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Rotterdam, Netherlands, for duty.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month.

Asst.-Surgeon S. R. Tabb, granted leave of absence for 15 days.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for 7 days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 29, 1899.

SMALLPOX—UNITED STATES.

Colorado: Leadville, December 14, 1 case.

District of Columbia: Washington, December 16 to 23, 2 cases.

Illinois: Cairo, December 16 to 23, 6 cases.

Kentucky: Louisville, December 14 to 21, 1 case.

Massachusetts: Boston, December 16 to 23, 3 cases; Lowell, December 16 to 23, 1 case.

Michigan: Detroit, December 2 to 9, 8 cases.

Missouri: Springfield, August 15 to December 20, 150 cases, 4 deaths.

Nebraska: Omaha, December 16 to 23, 1 case

Tennessee: Nashville, December 16 to 23, 4 cases.

Virginia: Norfolk (vicinity of), December 16 to 23, 1 death; Portsmouth, December 16 to 23, 1 death.

SMALLPOX—FOREIGN.

Canada: Ontario, October 30 to December 16, 122 cases; Quebec, December 12 to 16, 23 cases.

Ceylon: Ceylon, November 4 to 11, 1 case, 1 death.

China: Honkkong, November 4 to 11, 1 death.

England: London, December 2 to 21, 1 case.

Mexico: Vera Cruz, December 14 to 21, 1 death.

Spain: Carunna, November 25 to December 2, 4 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Colombia: Panama, December 12 to 19, 2 cases, 1 death.

Cuba: Havana, December 2 to 16, 8 cases, 9 deaths; Santiago, December 2 to 9, 2 cases.

Mexico: Vera Cruz, December 14 to 21, 2 deaths.

CHOLERA.

Straits Settlement: Singapore, October 21 to 28, 2 deaths.

PLAGUE.

China: Hinchwang, November 2, disease abating.

CHANGE OF ADDRESS.

Barkholder, S. G., from 3135 Vernon Ave. to 1816 Michigan Ave Chicago.

Brown, G. R., from 1215 E. 7d St. to 49 W. 5th St., Cincinnati, O

Bryan, F. P., from Georgetown, Ky., to Newbury Hotel, Chicago.

Burgess, S. P. K., from 572 Madison to 9 South Ada, Chicago.

Caldwell, W. S., from Calcutta, India, to Naples, Italy; care of Thomas Cook & Son.

Capehart, P. W., from Kittrell to Charlotte, N. C.

Chapman, F. P., from 144 to 425 E. 63d St., Chicago.

Dorr, H. L., from 403 Newbury to 284 Foster, Boston, Mass.

Dargatz, G. G., from 440 10th to Shupert Bldg., Kansas City, Mo.

Eckman, B. F., from Mount Carmel, to Georgetown Ky.

Jessen, J. H., from South Omaha to Lexington, Neb.

Knauf, F. P., from 318 Ogden Ave. to 188 Warren, Chicago.

Killey, P. H., from Kyle to Vivian, W. Va.

McGovern, A. C., from St. James to Shorburn, Minn.

Parsons, S. F., from 580 W. Madison to 522 Congress, Chicago.

Reasoner, R. W., from Morrisonville, Ill., to Colorado Springs, Colo.

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The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following; and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the JOURNAL for the full year, even though the membership be not continued.

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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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American Medical Association

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Address.

INFLUENCE OF THE MEDICAL PRACTITIONER ON MEDICAL PROGRESS.

BY JOSEPH D. BRYANT, M.D.

NEW YORK CITY.

It may seem strange, in an atmosphere as dense as is this of ours with medical phrase, that I choose to address you on any topic of medical education. But surely there can be no sentiment so dominant here as this one, except, let us hope, that of love for those for whose happiness we are responsible, and for Him to whom we owe the privilege of existence.

Medical education is commonly understood to mean the education gained from attendance at medical schools, rather than that born of the conscientious thought and labor of medical practice. Possibly it would be better if no mention were made at this time of medical schools as factors in medical attainment, as then the attention would be directed more definitely to the main object in view—the practice of medicine and of manly attributes as the means of the establishment of medical advance. A marked distinction should be made between these two means of medical attainment, the same, in fact, as is made between the engineering integrity of an underlying support in architecture and the symmetry and gravity of the burden that it sustains. The importance which this and kindred societies hold in the field of labor and advance is hardly realized unless it be made the subject of special thought.

The real significance of the labors of organized bodies of medical men rests in the outcome for the benefit of others, derived from wisely conducted interchange of ideas, based on an intelligent experience, and supplemented, but not submerged, by the goodfellowship begotten of a mutual participation in unceasing war waged against an insidious, tireless and finally successful foe—disease—and its dread sequel—death. The beginning of medical knowledge was coincident with the outcome of the first effort for the relief of suffering presumptively of the human kind. The first effort was the beacon of experience, and with the ending of the effort experience began. The germ of medical education had its birth at this time, and Experience attended at the delivery, and the importance of the harvest was determined by the degree of appreciation of the result by all concerned, but more especially on the part of the quasi-medical attendant.

Thus we find that the initial units of medical endeavor and that of medical experience and of medical education were born almost simultaneously, and thereby was founded a new world of labor and experience, and established, I think we may say, the world's trinity of physical well-being, a trinity charged with the material welfare of human beings, and next in significance to the Great Trinity controlling their spiritual comfort and security. These primal results were the products of the efforts, perhaps of but a single individual, or, at all events, of individuals acting with spontaneous desires for the accomplishment of a similar purpose, the securement of the physical comfort and welfare of human animation. However this may have been, the result was the same, as no established advance in methods of relief could have taken place except as the outcome of a conference of the participants, in which the experiences of each were combined for the betterment of the methods of all.

Medical endeavor, and therefore medical knowledge, are the direct products of the sympathetic efforts bestowed by our kind for the relief of the injuries arising because of the contentious nature of our earlier ancestry. Sympathizing friends and fellow-soldiers attended to each other's hurts at that time, employing simple waters and common herbs for their purpose. No thought of vulgar recompense or of venal plan entered into the proposition nor followed successful efforts of relief. The act was not entirely foreign to that of the brute of to-day, who patiently licks the wounds of his kind. There can be no record of the first case thus treated, since its antiquity is coincident almost with creation itself and with the endowment of God's creatures, from birds to man, with the emotion of sympathy, a sentiment the handmaid of need, and wisely bestowed on all forms of animated creation possessed of the emotions of jealousy and anger.

Although sympathetic friends and comrades planted the first seeds of medical attainment, the germination and growth thereof were hastened by the further efforts of those who, stimulated by primary success or prompted by generous impulse, regarded themselves as specially fitted for the art of healing their kind. And if, perchance, any one of them was possessed of special knowledge—empirical, of course—of the effects of remedies, then indeed was he the most bountifully equipped for the labor, and correspondingly respected in his sphere.

In this manner the treatment of tangible afflictions, usually the result of injuries, was carried on. However, the unaccountable presence of internal disease, and especially the bewildering characteristics of epidemics, clothed their appearance with the garb of the supernatural, when the wisest men of the times, the priests, then accredited with a special knowledge of strange, supernatural and subtle agencies, were consulted. It is recorded that the priests by their prayers and exorcisms instilled hope into the afflicted, and in many instances effected apparently marvelous cures. How strange the fact that in this day of boasted intelligence similar methods of treatment should clasp hands and greet familiarly those heading the chapters of the earliest history of human events. The so-called Christian therapeutics of to-day are more anomalous than were those of the earliest periods of our race. However, during that time, the invocations of the priests in behalf of their

*Delivered before the N. Y. State Medical Association, New York City, 1899.

patients were not always followed by relief, and finally, fearing the effects of the loss of reputation, the uses of diet and drugs were called to their aid. Hence, we owe to the priests of that time our first knowledge of the beneficent effect of diet and of the internal administration of drugs. To them also belongs the credit of much of the systematized beginning of the study and treatment of disease.

The healing art, as fostered and practiced by the priests of India, achieved noted triumphs thousands of years ago. The Vedas, the oldest literature of the Indians, a part of Sanscrit lore, give information concerning the training of doctors. At this time Charaka gave not only advice to the young regarding their proper fitting for the practice of medicine, but added that which concerns us the more to-day, the best means of imparting medical knowledge. He stated that the study of medical writings, the personal teaching of medical instructors and association with other physicians, were the best means of acquiring a knowledge of medicine. He expressed himself also wisely when he added the following advice: "The man who has nothing but a theoretical training and is unskilled in the details of treatment, knows not what to do when he comes to a patient and behaves himself as pitiably as a coward on the battlefield. On the other hand, a doctor who is only practical does not win the esteem of the best men." These words, written more than two thousand five hundred years ago, are of greater relevancy at this day of advance and opportunity than at the time of their utterance. They speak not only of the wise forethought of their author, but also of the unchangeable interdependency in all fields of attempt between preparation and action, and in this of ours between theory and practice.

If the attention be now directed but briefly to the records of Egypt, we find in this storehouse of ancient civilization evidences of much earlier and greater attainments in medicine and surgery than in India. In fact, in Egypt one finds evidences of prehistoric surgery, therefore, as yet of unmeasured antiquity so far as time record is concerned. However, the fact of their existence denotes the presence in their time of the fellow sympathy that prompted the efforts of relief. The papyrus Ebers, written 1552 years B. C., is a compilation of remedies and of the methods of treatment of disease, some of which are described as being ancient even at that period. It appears, too, that the Egyptians had given to anatomy, a systematic consideration—of its kind—so long ago as 5241 years B. C.

Accounts of the established existence of medicine and surgery and of their application to the suffering, are noted in the pages of the Holy Writ. It is recorded of King Asa, who, "in his disease sought not to the Lord but to the physicians. And Asa slept with his fathers." Whether or not this ancient utterance was then intended to express the sarcasm that often prompts its modern recital, I will not attempt to indicate.

Another instance may be properly quoted. "And if men strive together and one smites another with a stone or with his fist and he dies not . . . then shall he that smote him pay for the loss of his time and shall cause him to be thoroughly healed." In other and in modern practical expression, he shall forfeit damages and pay the doctor's bill! Surely this is an illustration of altruistic character, and better fitted to our sense of appreciation than is the preceding one.

The familiar and oft-quoted experience of the good Samaritan and the beneficent effects of his applications to the sufferer by the wayside speak like of the benefits of materialistic and of sympathetic therapeutics. The dual associations of medicine and surgery, of suffering and pity, and of physical distress and human compassion, are of an antiquity co-equal with that of the application of human reason to the woes of physical and mental misfortune.

Thus it is apparent that human sympathy first prompted medical effort; that human sympathy and special fitness established the beginning of medical practice; that religion headed the outcome, adopted and fostered the practice, and because of the erudition of its exponents recorded the results, thus laying a foundation for medical scientific effort. With the records of experience well kept and of ever increasing importance, the steps to organized medical instruction, singly imparted by mentor to pupil, or through the combined efforts of the adherents of the peculiar school of the time, were promptly taken.

Medicine was soon divorced from religion, and then practiced as an independent profession with great repute, especially in Egypt, where it took rank equal to that of the priestly one. The schools of medicine of the earliest times were not constituted as at the present. They were of an hereditary organization, sustained by the wisdom of the accumulated records of the experience of the forefathers, falling to the sons, who likewise added their experience and passed them along for the information of and amplification by their offspring, the next generation of physicians. The famous so-called schools of Cnidos and Cos were thus established and perpetuated. Hippocrates received his early education at the latter school. Surely, this plan of education constituted proprietary instruction in the strictest sense of the term. Soon physicians could gain their professional education in the temples along with those engaged in the attainment of the other learned professions, such as religion, law, mathematics and astronomy. Here we note the beginning of the university system of education of the present time.

But enough has been said already, it seems to me, to show conclusively the fact that medical education, at least up to the time of the development of physiology, chemistry, pathology and the still later co-ordinate branches of medical science, owed not only its birth but also its upbringing and final firm establishment to the value and perpetuation of the personal experiences of the crude medical endeavor of the first half of the recorded centuries of human existence.

The thirst for medical knowledge has extended from its points of inception in divers directions and in ever expanding circles, along the lines of intelligent appreciation and human sympathy, interrupted now and then for a time by the exigencies of national conflict or decay, and by individual complacency or contention, to the present time, bearing an ever increasing resemblance to that familiar picture painted on the placid surface of the lake by a falling pebble, as expressed by Pope:

> The small pebble stirs the peaceful lake,
> The circle round, a circle straight succeeds,
> Another still, and still another spreads.

The advent of newer methods of observation, based on the application to medical research of the advances in collateral things, and the greater acumen, the product of increased opportunity and appreciation, rapidly supplanted the assumption of empiricism with the rational conclusions of unerring scientific investigation. The hidden mysteries of the heretofore subtle agencies of disease are now being rapidly solved by the application to their presence of Nature's similar agencies.

The previous conflicts waged by man against disease in self-defense, are now changed to the substantial victories of aggressive action. Terror, woe and sadness, the heritages of earlier disease devastations, are supplanted by confidence, joy and gladness—confidence in the power of man to prevent, joy in the realization of the outcome, and gladness in the knowledge that misery and death are being pushed apace to the rear. Man's relation to the earthly order of things forbids that this conflict shall cease or that he shall be victorious. Nor need we hope for any change in this regard until, perhaps, the discovery and isolation of the bacillus of old age shall establish a rivalry between human longevity and infinite time.

The facts of substantial merit that have thus far been attained in the field of medical endeavor are the accumulated product of the efforts of those who have engaged in the practice or the study of medicine. The practice of medicine has achieved the more because it has demonstrated not only the trustworthiness of its own dogmas, but also the soundness of the faith of the student. In view of these facts, it requires no emphasis of statement to remind you of the importance of your own individual efforts in these matters, nor of the fruit thus far borne by those of our antecedents, who were prompted in their striving rather more to do good, than to gain riches or favor.

As already stated regarding the significance of an organized body of medical men, it relates not only to the scientific combat of disease, but to the cultivation of that sentiment of goodfellowship which gains firmest root in the breasts of companions in arms. A numerous, able and well-trained membership, possessed of proper *esprit*, is as essential to the successful conduct of a medical, as of a military organization. The success and standing attending the efforts of organized professional or business action depends entirely on the measure and character of the labor performed. The relation of these characteristics to each other should be mutual and interdependent, thus producing the maximum amount of high attainment. Those who have had special experience in a given line of action or of thought, and are known to be careful and conscientious observers, and equally careful and conscientious in the statement of facts, should be encouraged when needful, and secured when feasible, to express their well considered knowledge through the channels of established organization. On all such occasions as these the luster of personal attainment is shed through and upon the channels of its utterance.

The sacrifice of time in pointless discussion is pernicious, as it constitutes not only an abuse of opportunity and intelligence, but fosters romance and ostentation. No one is wise enough to speak profitably, without preparation, on a topic thoroughly presented, unless it be one of special interest to himself. Therefore, the reputation of all and the station and dignity of professions, demand that the participants in discussion shall be fitted by experience and preparation to consider the subjects on trial. Any other course than this dilutes facts with fancy, and unmans emphasis with puerility. Discussion conducted solely along the lines of friendly acquiescence or of gracious complacency, is the better suited to the graces of a feminine tea than to stern duty of combating disease, or of surmounting the difficulties of human opposition or those of Nature's bequests.

Scientific papers should emanate from sources which can add something to the store of knowledge, something that refutes or verifies an old, or that proposes or sustains a new, proposition. The presentation of a dissertation only because invited to do so, or for any other reason or excuse, in the absence of the possession of facts of importance, is making a convenience of other people's desires and perpetuating the display of personal vanity. In other words, the successful outcome of the discussion on an important topic requires that the participants be afforded the time and opportunity to enable them to express concise, intelligent and up-to-date facts and opinions regarding it.

The adoption of measures of this kind in connection with the consideration of living topics of common or of special interest, produces vitalized definite products. Any other course is one likely to refresh the memories with moribund facts at the expense of greater opportunities. Mann said: "Every addition to true knowledge is an addition to human power." It may be said with equal force, misguided efforts rob human possibility of important opportunities. The proper *esprit* is essential to success in every undertaking. Neither individual nor organized effort can attain the eminence of true merit without persistent labor for the common purpose. The domination of the church in general affairs and in medicine during much of its past history demonstrates forcibly the power of *esprit de corps* in the attainment of successful determinations.

The principles of action which lead to the success of individual effort apply with equal force to that of organized numbers in their efforts. And, by the same token, the creations of those animated only by effeminate complacency, are as unstable and unabiding as are images of sand. It is well in all instances of individual construction for common purposes to recall the wise saying: "No chain is stronger than its weakest link." The being enrolled in the support of a cause, or the maintenance of a purpose, medical or otherwise, constitutes a visible asset of the endeavor, but the fact alone that assets are present, even in ponderous dimensions, does not establish the success nor maintain the worth of the outcome of effort. The question is, are the assets available, are they productive, are their products of high comparative value, and how are they esteemed in the open markets of exchange of the professional and business worlds?

In the event of failure of high appreciation of the products of one's labor, it is then both becoming and wise to pause and ascertain the reasons of the failure, and in doing so it should not be forgotten that the admission of defeat or of the liability of it, constitutes the strongest incentive to the accomplishment of a purpose. A nature possessed of a kind of courage that impels one frankly to admit a fault, to acknowledge a failure or to confess ignorance will not submit to abasement. The same courageous manhood that commanded the acknowledgement will quickly lead to victory. It is not in the natural order of things that the worth of the contributions to human welfare and advancement of a person or an aggregation of persons, shall eclipse the good that follows in the same realm of endeavor, of all other of mankind. These contributions at the best can but point the way, and in so doing the beacon of experience serves as a guide of light to the greater and broader attainment of those who follow. A profession having in charge the physical welfare and comfort of human beings contributes very much indeed to the happiness and prosperity of the people. No adequate means of estimating the worth of these services has yet been determined, nor will it ever be known. Although the influences of environment, of custom and of demand regulate the standard of vulgar remuneration, there can be no true measure placed on the

sentimental, social and scientific outcome of medical care. How important then it is that those who devote their lives sincerely to the fulfilment of so sacred a trust, shall shun the pitfalls of venal practices, and of all contentions in which the public has no sympathy and which are antagonistic to the sacred precept: "As ye would that men should do to you, do ye also to them."

It seems to have been ordained as a duty that each shall labor faithfully for the welfare of others, and as an earnest of which we are commanded, "Thou shalt love thy neighbor as thyself." If the product of any human effort whatsoever be available to meet the wise needs of comfort or thrift, then surely has their author, dutifully or not, added something to the beneficent contents of the storehouse of well-being. Impotent indeed is he who has neither the opportunity, the ability, nor the inclination to contribute anything for the betterment of those around him, nor to the advancement of a cause of which he is a part. Fortunately nothing in this world is made in vain; nothing is lost. And although the good that one does may live after him, his ashes and those of the worthless serve alike to fit the soil for, we hope, a fruit of higher development.

Let us briefly measure our time, as members of this Association, with that of those who made it possible for each of us to regard himself as a reputable member of an honorable profession. The sympathy that stimulated the first efforts of relief is far more potent to-day than during the midnight era of unrecorded time. The means of the attainment of knowledge are now prolific and ever increasing. The ignorance, the contention and the bigotry which dwarfed and suppressed advance in earlier time are now supplanted by established learning, by honest debate and by thoughtful appreciation. Are we fully cognizant of the bountiful age in which we are living; and are we doing our parts as individuals and as an organization in a manner best intended to meet the approbation of those whom we now serve and those who are to follow?

It may not be amiss if each of us pause occasionally in our life's labor and indulge in introspection, inquiring: Can I not add yet more than I am now doing to the medical armamentarium for promoting human comfort and longevity? Are the intellectual products of my opportunities amply dedicated to the services of general human relief, or are they too often perverted to the advantages of individual gain? In other words, am I practising medicine as a consistent member of an honorable profession, or as a thrifty agent exploiting a business proposition? Is the sympathy which gave birth to my profession as keen and unselfish in my enlightened breast as in the breast of the pagan of the earlier time? Meditations of this character are healthy, mental exercises, and will beget promptings which, if heeded, will increase self-respect and exalt the profession of our choice. Those of us who for any reason are unable to contribute to the store of knowledge should be earnest in the determination to meet the demands of duty along other channels of human requirements, cheering ourselves with the thought that,

> Knowledge is the hill that few may hope to climb.
> Duty is the path that all may tread.

Aloes in Varicose Ulcers.

After the ulcer has been freed from pus by sublimate, horizontal position and elastic compression, it has been Collin's experience (*Journ. des Mal. Cut.*, August, 1899) that lightly moistening the surface with tincture of aloes will heal it up rapidly.

Original Articles.

SURGICAL TREATMENT OF PERFORATION OF THE BOWEL IN TYPHOID FEVER.*

WITH A TABLE OF 158 CASES.

BY W. W. KEEN, M.D., LL.D.
PHILADELPHIA.

In the brief limits allowed to this paper, among so many others, it is impossible to discuss more than the treatment of perforation of the bowel in typhoid fever. The diagnosis of this serious complication, which is equally, if not more, important, must, unfortunately, be omitted. What I have to say may, perhaps, be best stated in answer to four questions.

1. *Shall we operate at all?* This question can now be answered absolutely in the affirmative. Thirteen years ago, when Prof. James C. Wilson and I first discussed the advisability of operation in a case of apparent typhoid perforation, not a single case had been operated on in America, and only one in Europe, by Mikulicz, and of this we were ignorant. Then, the question was debatable; now, experience has given us a positive solution.

In my book on the "Surgical Complications and Sequels of Typhoid Fever," published early in 1898, I published a table by Dr. Thompson S. Westcott, in which he collected for me 83 cases of operation, of which 67 died and 16 recovered, a recovery rate of 19.3 per cent. Appended to this paper is a continuation of that table up to the present time, compiled by Dr. Martin B. Tinker, containing 75 additional cases, of which 54 died and 21 recovered[1], a recovery rate of 28 per cent., a gain over the rate of the first 83 cases of over 40 per cent. The recovery rate of the entire 158 cases is 23.41 per cent. The list includes cases operated on many hours and often many days after perforation presumably took place. If all physicians were alive to the fact that the healing process after operation during typhoid progresses just as well as if there were no typhoid and were alive to the good results of operation, and especially if they called the surgeon promptly, I do not doubt in the least that the recovery rate would be 30 per cent., or possibly even one in three. Twenty-eight per cent. is within hailing distance. In somber contrast to this is the estimate of Murchison, that the recovery rate in unoperated cases is only 5 per cent., and Fitz states that 83.4 per cent. die within the first week, 37.3 per cent. even within the first day.

The papers of Cushing and Finney and my book in America, and the papers of Platt, of Monod and Vanverts, and of Gesselewitsch and Wanach in Great Britain, France and Russia, respectively, have, evidently, borne good fruit.[2] From 1884, when the first operation was done, to January, 1898, 14 years, only 83 cases were reported. Two years have added 75—158 in all. Of the whole number, 97 are reported by American surgeons—including Canada—21 by British and 15 by Russian surgeons.

2. *In what cases shall we operate?* To this I would

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*Read in the discussion on Typhoid Fever, at the meeting of the N. Y. State Medical Association, held in New York City, Oct. 25-26, 1899. A number of cases have been added since the paper was read.

[1] I count Case 95 as an operative recovery. Possibly Case 154, which survived nine days, might be so classed, but to be on the safe side I classed it as a death.

[2] References to these papers will be found in the table of cases. I must express my obligations to Dr. Finney for advance sheets of a paper on the same subject, soon to appear in the Johns Hopkins Hospital Reports, vol. viii.

answer, practically every case of perforation, unless the condition is such that recovery is evidently hopeless. The better the general condition, the better the prospect of cure, and perforation occurs quite as often in mild cases as in severe, and possibly even more frequently. One case was operated on twice (87) with a fatal result; one case (90) three times, and yet recovered. The operation has been followed, as is possible after any abdominal section, by intestinal obstruction. Cushing's case (90) and Finney's (107) were operated on for such a post-operative obstruction, and both recovered. C. B. Porter's patient (132) died of an unrelieved obstruction; possibly a second operation might have averted death. Finney's remarkable one (68) of seven later complications, yet happily resulting in recovery, encourages us never to despair.

No *age* is a barrier, yet, as the subjoined table—derived from the entire series of 158 cases—shows, age apparently has considerable influence on the recovery rate:

TABLE OF RECOVERIES AND DEATHS WITH REFERENCE TO AGE.

Age.	Recovered.	Died.	Recovery Per cent.
Under 15	7	6	53.84
15 to 25	4	39	9.30
26 to 35	10	33	23.26
Over 35	6	14	30

This shows that from 15 to 25 is the most unfavorable time to operate, while the most favorable are over 35, and especially under 15.

Again, *sex* seems to have considerable influence on the mortality rate, so far as can be judged from 158 cases. In my table the sex is mentioned in 125 cases, of which 106 were males and 19 females—84.8 per cent. of males. This preponderance of males would be even greater were military and naval surgeons alive to the possibilities of saving life in this perilous condition. I have been informed of a considerable number of such cases dying without operation during our late war with Spain. Of the males 85 died and 21 recovered, a recovery rate of 18.1; 11 females died and 8 recovered, a recovery rate of 42.1 per cent. In other words, while the number of operations in males has been over five times as many as in females, the recovery rate of females has been over twice that of males.

Again, I have analyzed the recovery rate in the various *weeks of the disease.* The third week gives, as is well known, the largest number of cases of perforation, the second following close upon it. As is seen by the subjoined table, the mortality rate of these two weeks is by far the worst, yet even these two weeks yield a recovery rate of over 16 per cent., more than three times that of unoperated cases, and in the fourth week this recovery rate is doubled.

TABLE OF RECOVERIES AND DEATHS WITH REFERENCE TO THE WEEK OF THE FEVER.

	Recovered.	Died.	Recovery per cent.
First week	2	1	
Second week	5	22	18.57
Third week	8	42	16
Fourth week	4	8	33.3
Fifth week	1	5	
Sixth week	14	2	
Seventh week	2	3	
Eighth week		1	
Ninth week		1	
Eleventh week	1		

The numbers in other weeks, not rated, are too small to make the percentages of value.

3. *When shall we operate?* Next to the first question, which I regard as settled, this is the most important to be considered. As exception has been taken, especially by Cushing and Taylor, to my views as set forth in my book, I may be permitted to quote precisely what I wrote: "First, the time of operation should be wisely chosen. The best time is not during the immediate primary shock which lasts during the first few hours. Happily, in fact, it is very rarely the case that operation can be done within several hours after perforation, since, the case being under the care of a physician, it requires time to obtain a consultation with the surgeon, and, when the diagnosis has been reached, still further time must elapse before suitable preparations for operation can be made. The table on page 227 [of my book] shows that the *second twelve hours after perforation, all things considered, has been the most favorable up to this time.* Abbe well says that it is essential that 'the surgeon should never be so hasty in getting at his work that he enters upon it handicapped by poor assistants, poor light, poor arrangements for irrigation and sponging, or inadequate plans for restoration from shock.' *The earlier the moment at which the operation can be done after the immediate shock of the perforation, provided, of course, there has been any, as is sometimes not the case, the better it will be for the patient. Every hour then counts, since the infection of the peritoneum becomes more diffuse and more intense*[3]."

Looking carefully at what I said, it is hardly just, it seems to me, for Cushing to say: "it is hard to understand Dr. Keen's advocating delay until symptoms of shock have passed away and *his preference of the second twelve hours* for operating, when one appreciates that extravasation, perhaps of virulent organisms, is with all probability continually taking place while we are waiting." Taylor says: "I believe, to be successful, the abdomen should be opened at the earliest possible moment after the diagnosis is made and that no delay whatever should be permitted for reaction, or, indeed, for any purpose whatever," and again, "I do not believe it wise to wait for reaction, as Dr. Keen suggests, for the shock and lowered temperature is due to the large amount of septic material in the abdominal cavity and to the resulting purulent peritonitis, and not to the shock of perforation of the bowel. The fact that the greatest number of recoveries occurred when the operations have been performed within the second twelve hours only carries out this contention. They are, as a rule, the cases where the perforation is small and the onset of the peritonitis slow."

I think that what I wrote may be fairly summarized in two rules: 1, operation should be done as soon as possible after perforation; 2, but no prudent surgeon would operate in perforation any more than in any other condition during profound shock. I did not state that I "*preferred* the second twelve hours," but only that "*all things considered,* this has been the most favorable *up to this time.*"

Let us appeal again to the facts. In the subjoined table I have made a more minute analysis of the influence of the time of operation on the rate of recovery than in my book, and, on consulting it, we see that the recovery rate in the first four hours is 25 per cent.; from four to eight hours, 8.33 per cent.; and for all cases operated on within the first eight hours the average is 15 per cent. In the third four hours, from eight to twelve, the recovery rate is 25 per cent., which is still below the recovery rate of operations done from eight to twenty-

[3] The italics are used here to call attention to my position.

TABLE OF 158 CASES OF OPERATION FOR PERFORATION IN TYPHOID FEVER, PREPARED BY DR. MARTIN B. TINKER.[5]

No.	Operator and reference.	Age and sex.	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
84	Abbe, R. Personal communication.	M. 29	Two perforations of ileum; one 8 in. from ileo-cecal valve; the other 14 in. from valve.	During 2nd week of a relapse.	7 hours.	Median celiotomy; abdominal cavity filled with greenish turbid extravasation and all small intestine injected; suture of openings; saline irrigation; glass drainage tube into pelvis. Upper opening in bowel reopened and stitched into wound with rubber tube draining it for relief of intestinal contents.	D	Patient a soldier from Cuba, exhausted by long camp illness and hardships. Died 11 hours after operation.
85	Abbe, R. Personal communication.	M. 30	Perforation 1½ feet from ileo cecal valve.	Typho-malarial fever for 8 wks.	12 hours.	Abdominal cavity fouled by intestinal contents and general peritonitis; suture of perforation; irrigation: drainage from pelvis by glass tube and gauze.	D after 3½ days.	Patient a soldier from Cuba, exhausted before operation. Died 3½ days after operation.
86	Anderson, A. R. Handford & Anderson, Brit. M. J., 1898, ii, 220.	M. 27	Within 3 feet of cecum; hole size of a bean.	Probably 33d day.	22½ hours.	Incision 4 inches long below umbilicus in median line; gas and feculent matter escaped; intestines congested and covered with lymph; perforation closed with silk Lembert sutures; intestine pulled out loop by loop and wiped with sponges saturated in biniodid sol. 1:2000; abdomen closed without drainage.	R	Renal complications delayed recovery. Wound healed several weeks at time of report.
87	Beach, Fitz & Beach, Boston Med. and Surg. Jour., 1898, cxxxix, 389.	M. 15	Short distance from cecum.	During 3d week.	. . . . .	Incision 8 inches in median line; escape of gas and fecal fluid; flakes of fibrin on intestines; feces pouring from ulcer which was closed by Lembert sutures at right angles to axis of intestine; flushing with hot boiled water; hot salt solution left in abdomen, which was closed without drainage; operation lasted 30 minutes; 8 days later reopened wound, evacuated pint of fecal fluid coming from ulcer near cecum; closed perforation with Lembert sutures; flushed with hot water; gauze drainage.	D	Condition fair after first operation; then several bloody stools; stitch abscesses. At 2nd operation former suture found in good condition; gradually failed and died same afternoon. Necropsy showed large necrotic area in cecum, many ulcers lower 3 feet of ileum.
88	Beckett, W. W. So. California Prac., 1899, xiv, 111.	F. 22	Loop of small intestine in Douglas cul-de-sac; opening small.	22d day.	24 hours.	Abdominal cavity distended with gas; general peritonitis; perforation closed with Lembert sutures; flushing with normal salt solution; gauze drainage.	D	Death from general peritonitis 24 hours after the operation.
89	Bigger, E. C., and Campbell, R. Brit. Med. Jour., 1899, i, 89.	M. 36	Two feet from cecum, ½ inch from mesenteric attachment; about size of a pea.	About first of 3d week.	10½ hours.	On opening abdomen gas and yellowish fluid escaped; intestines injected and covered with patches of lymph; perforation closed with 2 rows Lembert sutures; coils of intestine and pelvis sponged clean; irrigation with boiled water; glass drainage tube from lower part of abdomen.	D	Died during 4th day after operation.
90	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 9	Two operations; first, perforation about 2 mm. in diameter; about 25 cm. from cecum in free surface of bowel; 2nd, perforation few cm. beyond first perforation; thinned Peyer's patches seen at first operation.	1st perforation end of 2nd week; 2nd perforation 14 days later.	4 hours.	1st operation. Median laparotomy below umbilicus; sero-purulent fluid in peritoneal cavity; serosa injected, particularly in right iliac fossa; fibrinous deposit in ileum; feces flowing from perforation, which was closed by circular suture, fine silk; irrigation with salt solution; gauze drainage. Second laparotomy 12 days later; no cause for symptoms of apparent perforation found; closure with drainage. Third laparotomy 2 days later for intestinal obstruction; no peritonitis; obstruction from kink in adherent omentum: second perforation at site of kink found and sutured with single purse-string suture of fine silk; gauze drainage. Operation lasted 20 minutes.	R	Patient rallied well after first operation but fecal fistula developed on 2nd day; discharged for few days. After 2nd operation condition not materially affected. After 3d operation, distention, peristaltic cramps, serious condition; typical typhoidal condition for 10 days, convalescence tedious; abscesses over back and shoulders incised; broke down and slow healing, but ultimate recovery.
91	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 18	First loop of ileum 3 large ragged holes about 1.5 cm. in diameter.	Fifth week.	Probably 36 hours or more (personal).	Cocain anesthesia; incision through right linea semilunaris; rush of gas followed by escape of stinking fluid like pea-soup stools; bowels bluish, distended, covered with lymph and fecal extravasation; suture of perforations with Halsted matress sutures; cleansing abdominal cavity and irrigation with salt solution; drainage of pelvis and at seat of suture.	D	Rallied somewhat under stimulants and salt infusion but died 4 hours later.
92	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 31	About 10 cm. above cecum.	Fourth week after prolonged abdominal symptoms.	Possibly 24 hours (personal).	Incision through right rectus; escape of gas and sero-purulent fluid on opening abdomen; serosa injected, ileum distended and covered with fibrinous lymph; perforation and thin patch turned in with Halsted sutures; wiping, irrigating, drainage of pelvis and site of suture. Operation lasted 30 minutes.	D	Stood operation fairly well, but died 8 hours later, apparently of acute general toxemia.
93	Cushing, H. W. Personal.	M. 25	8 inches (20.4 cm.) above cecum.	. . . . .	5½ hours.	Perforation and two thin Peyer's patches inverted and sutured; operation under cocain anesthesia.	D	General peritonitis; death 3 days later second operation.
94	Cutler, E. G. & J. W. Eliot, Per. Med. Rec. 517, Mass. Hosp. Rec.[6]	M. 19	Ileum 4 feet above cecum.	Last of 2nd or beginning of 3d week.	4 hours.	On opening abdomen considerable slightly cloudy serous fluid in abdominal cavity; some serous flakes on intestines; gut folded longitudinally and sutured by two rows of Lembert sutures; small wick of gauze.	R	Relapse of fever 7th day after operation lasting about 16 days; good recovery, man now perfectly well.
95	Dalton, Med. Rev., St. Louis, 1898, xxxvii, 392. Proceedings of the St. Louis Med. Soc.	. . . .	. . . . .	14th or 15th day.	. . . . .	. . . . .	R[6]	Urgent symptoms (collapse, pain, rapid pulse, etc.), disappeared after operation; patient had regular course of typhoid fever and died from the fever on 34th day. Necropsy showed wound nicely healed.
96	Dalton, Med. Rev., St. Louis, 1898, xxxvii, 392. Proceedings of the St. Louis Med. Soc.	. . . .	2 perforations 6 or 8 inches above ileo cecal valve and 2 feet above.	. . . . .	. . . . .	Perforation nearest ileo-cecal valve was closed; second perforation overlooked.	D	Died from shock; second perforation found at necropsy.

[5] Cases 1 to 83 will be found in my book on "The Surgical Complications and Sequels of Typhoid Fever," Philadelphia, 1898. The following remarks as to cases in the additional table may be proper: No. 95 is marked as a recovery, as he recovered from the operation and died on the thirty-fourth day from the fever. Nos. 111, 113, 114, 115, 140, 141 and 143 are only of value as determining the recovery rate. Nos. 118, 133 and 135, though somewhat doubtful, are reasonably certain to have been cases of typhoid perforation.

[6] To be published in Boston Medical and Surgical Journal.

No.	Operator and reference.	Age and sex.	Location and character of ileum.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
97	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	. . . .	. . . . .	. . . . .	26 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
98	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	. . . .	. . . . .	. . . . .	. . . . .	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
99	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T Finney of Johns Hopkins University.	M. 24	3 perforations, in last 18 inches of bowel; general plastic effusion.	End of 2nd week.	16 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	
100	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	M. 16	. . . . .	End of 2nd week.	13 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	Would probably have had a good chance but for hemorrhage the day after operation.
101	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	. . . .	. . . . .	. . . . .	36 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
102	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	F. 13	. . . . .	Probably in 4th week.	11 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	R	Mild attack, condition good; day after operation felt well and complained of hunger; wound sound on 16th day, except where drainage tubes removed; general condition excellent.
103	Deaver, J. B. Transactions Col. Phys., Phila., 1898, 3 s., xx, 9.	M. 27	Not located.	About middle or end of second week.	Perforation took place after dinner Operation next morning; probably 12-18 hrs.	Free gas and pus, on opening abdomen; appendix congested and removed; no attempt to locate perforation; thorough irrigation and drainage.	R	Second attack of typhoid; diagnosis confirmed by Widal reaction; first attack 10 yrs. before. Fever ran typical severe course; several hemorrhages; ulceration of appendix.
104	Deaver, H. C. Transactions Col. Phys., Phila., 1898, 3 s., xx, 9. Report by J. B. Deaver.	M. 36	Pin-hole perforation in ileum.	In the 3rd week.	36 hours.	Pus found in peritoneal cavity.	D	Death during 3rd day after diagnosis of perforation.
105	Deaver, J. B. Annals of Surgery, Phila., 1898, xxviii, 144.	F. 23	7 inches from ileo-cecal valve, opposite mesentery.	21st day.	15½ hours.	Median incision; pus and gas escaped; perforation closed with silk sutures; flushing with sterile warm water; glass drainage [illegible] lasted 17 minutes.	D	Died on 3rd day after operation; necropsy showed general peritonitis, many ulcers; sutures holding well, no other perforation.
106	Finney, J. M. T. Personal. To appear in Johns Hopkins Hospital Reports.	M. 12	About 2 feet (61 cm.) from ileo-cecal valve.	During 2nd or 3d week.	About 3 [illegible]	[illegible] escape of gas, pus, and fecal matter; [illegible] ed with lymph, chocolate color; thorough irrigation with warm salt solution; perforation sutured.	D	Entered hospital in extremis. Death before recovery from anesthetic. Widal reaction; numerous ulcers, some nearly ready to perforate.
107	Finney, J. M. T. Personal. To appear in Johns Hopkins Hospital Reports.	M. 26	Ragged perforation about 4 mm. in diameter, about 50 cm. from ileo-cecal valve.	During 3rd week.	20 hours.	Right lateral 4 in. incision; escape of odorless sero-purulent fluid; intestines congested and distended; perforation closed with two rows mattress sutures; wiping with gauze and irrigation with salt solution; no drainage; operation lasted about 1 hour. Second operation for intestinal obstruction on 22d day.	R	Condition excellent after operation; stitch abscess; fecal fistula which closed spontaneously. At second operation fecal fistula reopened but after a week interrupted convalescence and perfect recovery.
108	Gray, F. D. N. Y. Med. Record, 1899, lv, 566, case ix.	M. 41	Lower part of ileum.	During 6th to 8th week of walking typhoid.	48 hours.	Incision over appendix; appendix entirely normal; fecal matter exuding from ulcer had produced intense general peritonitis; closed perforation with deep sutures and 2d row Lembert sutures; cleansed with hydrogen dioxid and normal salt solution; 3 gauze drains.	D	Rallied and lived 3 days; necropsy showed suture successful and numerous healed typhoid ulcers.
109	Hemeld. Med. Rev. St. Louis, 1898, xxxvii, 392. Rep. by Lutz in Proc. of St. Louis Med. Soc.	. . . .	Perforation in Meckel's diverticulum.	. . . . .	. . . . .	Closure of perforation and drainage.	D	
110	Jackson, Thos. W. N. Y. Med. Record, 1899, lvi, 519.	M. 26	In small intestine; ¼ inch in diameter.	Wk. after entering hosp. about end of 2d week	About 3 days	Incision over cecum; abscess in right inguinal region; foul, fecal-smelling fluid in abdominal cavity; adhesions between intestines; flushing with normal salt solution; gauze drainage; incision left open and packed.	D	Died in about an hour.

No.	Operator and reference.	Age and sex.	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
111	Kropowski, Gesselowitsch, St. Peterb. Med. Woch., 1898, n. f. 15, xxiii, 23.	. . . .	. . . . .	. . . . .	. . . . .	. . . . .	R	Gesselowitsch states that this case was reported to the Russian Medical Society.
112	Lund, F. B. Personal to Prof. J. M. T. Finney of Johns Hopkins Univ.	M. 38	Punched out perforation ¼ inch (6 mm.) in diameter, 8 inches (20.3 cm.) from ileo-cecal valve.	During 3rd week.	12 hours.	Incision in right iliac region; intestine injected, distended, covered with lymph flakes; abdominal cavity full of sero-purulent fluid; clotted blood and feces in pelvis; perforation closed with fine silk mattress sutures; thorough flushing with salt solution; drainage with glass tubes and gauze from pelvis, l. hypochondrium, subhepatic region; operation lasted 30 minutes.	D	Died from general peritonitis 48 hours later; no other perforations; ulcers and other lesions of enteric fever; perforation firmly closed.
113 114 115	Lutz. Med. Rev., St. Louis, 1898, xxxvii, 592. Proc. St. Louis Med. Soc.	. . . .	. . . . .	. . . . .	. . . . .	Lutz stated in discussion reported in Proceedings of St. Louis Med. Soc. that he had operated 3 times for perforation occurring during typhoid fever.	R R D	2 recoveries; 1 death.
116	Margarucci. Bull. d. Societa, Lancisiana d. osp. di Roma, 1898, xviii, 319.	F. 50	In the ileum a short distance from the cecum.	Probably during 2nd wk. (about 10 d. after entering hospital).	16 hours.	Abdomen opened below the umbilicus; escape of yellowish fluid containing fibrinous flocculi; loops of small intestine much congested; about 30 c.c. of ileum thinned by ulceration was resected and joined by end-to-end anastomosis; thorough cleansing of abdominal cavity and irrigation; gauze drainage from the pelvis, lumbar fossæ and site of operation; operation lasted 50 minutes.	D	Patient rested quietly during night after operation; but died the middle of the next day.
117	Martin, E. University Med. Mag., 1899, xi, 502.	M. 12	Lower part of ileum, probably not far from the ileo-cecal valve.	About the latter part of 3rd wk.	33 hours.	Incision in linea alba below umbilicus; escape of pus on opening peritoneum; intestines glued together by fibrinous exudate; perforation sutured with catgut Lembert sutures; peritoneal cavity wiped with gauze sponges, flushed with saline solution, drained with glass tubes; pelvis drained with gauze; oper. lasted ½ hr.	D	Partial recovery under hypodermoclysis and stimulating enemata; fecal vomiting recurred, death 16 hours after operation.
118	Martin, E. Univ. Med. Mag., 1899, xi, 502.	. . . .	Ileum.	. . . . .	Perfor'n had probably existed several days.	Operation consisted in opening large abscess containing feces, pus and gas; exudate limited by plastic peritonitis.	R	Patient recovered with fecal fistula.
119	Moore, J. E. Northwestern Lancet, 1898, xviii, 135.	F. 30	About 1½ feet above ileo-cecal valve near mesenteric attachment; opening had punched out appearance.	Third week.	4 to 6 hours.	Median incision; perforation found within 2 minutes and closed with fine silk Czerny-Lembert sutures; some time required to wash out abdomen, which was full of liquid feces, by large quantities of salt solution.	D	Death about 14 hours after operation.
120	Moynihan. Brit. M. J., 1899, i, 1097. Proceedings Leeds & W. Riding Med. Chir. Soc.	M. 16	. . . . .	About last of 3rd or beginning of 4th week.	About 24 hours.	Median incision below umbilicus; escape of turbid fluid containing lymph flakes; intense peritonitis; perforation found at once and closed with three Halsted sutures; flushing with hot sterile salt solution; gauze drainage.	D	Survived 8 days, during which time violent vomiting and diarrhea.
121	Munro, J. C. Personal to Prof. J. M. T. Finney of Johns Hopkins Univ.	M. 30	In a loop of ileum.	During 4th week.	4 hours.	Right lateral incision; feces escaping from perforation, which was closed by 2 rows of sutures; irrigation with normal salt solution; drainage with gauze and glass tube; operation lasted 30 minutes.	D	Condition excellent until about 40 hours after operation, then sudden collapse, cyanosis, high pulse; death 8 hrs. later. Necropsy showed mild peritonitis; but nothing to account for sudden death.
122	Munro, John C. Reported by Burrell and Bottomley, Boston City Hosp. Rep. 1898, 126.	M. Adult.	Not found.	About the 11th day.	3 days.	Incision halfway between umbilicus and right ant. sup. spine; well walled-off cavity size of fist filled with pus opened; condition critical and impossible to search for perforation; drainage.	D	Death in 10 hours.
123	Netschaieff and Troianoff. Ietropicorousskoi Kirourgie, 1897, ii, 406, in Presse Médicale, 1898, May 18, 271.	M. 30	Ileum.	Had been in hospital 10 days.	. . . . .	On opening abdomen, peritonitis with effusion found; fecal matter in abdominal cavity; perforated part of intestine resected.	D	
124	Netschaieff and Troianoff. Ietropicorousskoi Kirourgie, 1897, ii, 406, in Presse Médicale, 1898, May 18, 271.	M. 28	About 21 cm. above the ileo-cecal valve.	. . . . .	About 17 hours.	Four cm. of intestine at seat of perforation resected; abdominal wall not sutured until 8 days after operation; until then wound packed with sterile gauze.	R	Complete recovery.
125	Pearson, A. E. Brit. M. J., 1899, i, 1097. Proc. Leeds & W. Riding Med. Chir.	M. 14	. . . . .	16th day of disease.	9 days.	Abdomen opened in left iliac region and about a pint of fecal-smelling pus evacuated; drainage tubes inserted.	R	Satisfactory progress for 14 days, then relapse lasting 2 weeks, followed by perfect recovery.
126	Pick, T. P. Report by Rolleston, Brit. M. J., 1898, i, 1328.	M. 21	Perforation of appendix near cecum.	. . . . .	. . . . .	Appendix resected, stump invaginated into cecum, peritoneum washed out, tube left in for drainage.	D	Rallied temporarily, but died on 2d d. after operation, probably from grave constitutional symptoms; Widal reaction; had worked within 5 days of death.
127	Platt, J. E. Lancet, 1899 i, 505, and Brit. Med. Jour., 1899, i, 345.	M. 37	In a loop of ileum near pelvic brim; opposite mesenteric attachment; 1½ inches in length.	About 11th day.	About 22 hours.	Incision 4 inches long in right semilunar line; escape of gas and feculent fluid on opening peritoneum; opening inverted and sutured with continuous silk sutures; difficult to return intestines because of distention; irrigation with hot saline solution; drainage tube passed down toward pelvis; oper. lasted 50 min.	R	Convalescence complicated by relapse; after which rapid progress to recovery. Left hospital 61 days after operation.

No.	Operator and reference.	Age and sex.	Location and character of lesion.	Day of the Disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
128	Platt, J. E. Lancet, 1899, i, 505, and Brit. Med. Jour., 1899, i, 315.	M. 17	Peforation of the ileum 9 in. from cecum.	About 27th day.	18 hours.	Incision as in preceding case; gas and feces in abdomen; intestines much distended; perforation closed with difficulty with Lembert sutures because of cutting out; flushing with hot saline solution; drainage of pelvis; operation lasted 40 minutes	D	Rallied from operation, but died about 9 hours later; necropsy showed general peritonitis.
129	Platt, J. E. Lancet, 1899, i, 505, and Brit. Med. Jour., 1899, i, 315.	M. 22	About 9 inches from ileo-cecal valve.	About 18th day.	19 hours.	Incision as above; gas and feculent fluid in adbomen; edges of opening inverted and Lembert sutures inserted; flushing with warm saline solution; drainage from pelvis; oper. lasted 45 min.	D	Died about 12 hours after operation; necropsy showed peritonitis limited to pelvis and right iliac region.
130	Platt, J. E. Personal.	M. 26	3½ inches from the ileo-cecal valve.	. . . . .	About 36 hours.	Incision in linea alba; peritoneum slightly inflamed but no free gas, feces or fluid found at time of operation. A short search revealed no evidence of perforation and abdomen closed.	D	Death 15 hours after operation. Necropsy: perforation in a coil of intestine in the pelvis; [illegible] iting peritonitis [illegible].
131	Platt, J. E. Personal.	M. 25	Perforation oval in shape, *the long diameter being in* the transverse direction of the gut.	. . . . .	About 96 hours.	Incision in linea alba; large amount of fecal matter in pelvis; *one large perforation sutured; a second perforation in loop of* bowel adherent to pelvis could not be closed because bound down by firm adhesions.	D	Necropsy: General peritonitis; pus and feces in pelvis; numerous large sloughing ulcers in small intestine, extending upward 4 feet from cecum; appendix uninvolved; one ulcer at hepatic flexure; sutures firm.
132	Porter, C. B. Personal letter.	M. 19	Six inches (15.2 cm.) from cecum.	14 days after first malaise.	11 hours.	Incision through right rectus; turbid serum in pelvis, no fecal matter; 2 or 3 places near perforation seemed about to perforate; adjacent intestinal coils covered with fibrin; perforation closed by double row Lembert sutures, transverse to long axis of bowel; serum wiped out with gauze sponges; 2 wicks of gauze to seat of suture.	D	Patient made good recovery from operation: some vomiting for two days after operation; on third day pulse became weak and rapid; temperature rose; fecal vomiting and death. Necropsy showed intestinal obstruction due to solid feces at site of suture; no peritonitis; would probably have recovered except for obstruction.
133	Porter, C. A. Personal letter.	F. 35	Perforation with ragged edges ¾ inch, 7 inches (17.8 cm.) from cecum.	About the 13th day.	5 hours (delayed by religious rites).	Incision through right rectus muscle; turbid fluid in pelvis and lower abdomen; perforated area excised and closed with Lembert sutures; another ulcer 4 inches from cecum about to perforate and a few sutures inserted; pelvis wiped; flushing with hydrogen dioxid and normal saline solution; gauze wick to line of suture; operation lasted 45 minutes.	D	After-operation condition poor; infusion normal saline solution; strychnin, etc., repeated twice in 12 hours; condition became worse, and death the next day. Necropsy showed general peritoneal cavity apparently normal; some injection in pelvis.
134	Powers, Chas. A. Personal letter	M. 35	About 15 inches (38.1 cm.) from cecum.	. . . . .	18 hours.	Median incision; excision of edges of ulcer; suture of intestinal wound; peritonitis apparently limited to right side of abdomen; collapse prevented as thorough irrigation and cleansing as was desired; drainage to seat of suture.	D	Death 4 days later from general progressive peritonitis.
135	Price, J. Canada Lancet, 1897, xxx, 385.	F. 26	Large ragged perforation in ileum.	Ill 2 wks. before admission to hos.	. . . . .	On opening abdomen general adhesions found in region of ileum and right groin; perforation trimmed and sutured; irrigation and glass tube.	R	For 2 days after operation temperature high, pulse rapid and feeble.
136	Richards and Goodall. Med. supplement to Rep. Statistical Com., Metropolitan Asylums Bd., London, 1898.	F. 8	Perforation ¼ inch (6 mm.) in diameter, 30 inches (75 cm.) from ileo-cecal valve.	End of 4th week.	12 hours.	[illegible] *e of turbid serum on opening peritoneum*; [illegible] ecchymosed, patches of lymph adherent; perforation closed by interrupted continuous suture; irrigation with warm water; drainage; operation lasted 1 hour.	D	*Patient lived nearly 4 days.* Necropsy showed general peritonitis and a second perforation caused by suture passing through adjoining ulcer.
137	Ryan, C. Australasian Med. Gaz. 1899, xviii, 334.	M. 38	18 inches from cecum; about size of a pea; on free surface of bowel.	During 3d week.	6 hours.	On opening abdominal cavity escape of gas; small intestine distended and congested; covered with flakes of adherent lymph; offensive, turbid fluid with fecal odor in pelvis; ulcer closed by double row Lembert sutures; intestines washed and abdominal cavity and pelvis flushed with hot sterile water; abdomen closed without drainage.	D	During anesthesia vomited matter entered the [illegible] ncho- [illegible] ropsy [illegible] ings; [illegible]
138	Saquépée, M. E. Bull. et mem. de la Soc. Anat., Paris, 1899, lxxiv, 443.	M. 23	In ileum 74 cm. above ileo-cecal valve; 3 mm. in diameter.	About the 8th day.	About 14 hours.	Incision in the right flank; on opening abdomen purulent, odorless fluid escaped; perforation readily found and sutured; irrigation with boiled water.	D	Death a few minutes after operation; necropsy confirmed diagnosis of typhoid; intestine deeply ulcerated but no other perforations.
139	Senn, N. Personal letter.	M. 50	. . . . .	During 3rd week.	4 days.	Celiotomy; perforation and large intraperitoneal abscess found; perforation sutured.	D	Recovered from operation and did well fifth day; hemorrhage from another ulcer caused death.
140	Senn, N. Personal letter.	. . . .	. . . . .	. . . . .	. . . . .	Operated for typhoid perforation in two cases.	R	One recovery and one death.
141							D	
142	Taylor, H. M. Va. Med. Semi-Monthly, iii, 1898-99, 719.	M.	About 12 inches above cecum, circular, punched-out opening.	3 days after fever from relapse of 10 days after fever of 6 weeks.	15 hours.	Incision over cecal region; sero-purulent fluid escaped on opening peritoneum; perforation readily found and closed with deep mattress and Lembert sutures; intestines wiped and thorough irrigation with hot saline solution; multiple gauze drainage; operation lasted 37 minutes.	R	Convalescence uneventful.
143	Taylor, H. M. Va. Med. Semi-Monthly, iii, 1898-99, 719.	M.	. . . . .	. . . . .	Several days.	. . . . .	D	Lived but a few hours after operation.
144	Taylor, H. M. Maryland Med. Jour., 1899, xiii, 101.	M. Young adult.	Lower part of ileum, about 12 in. (30.5 cm.) from ileo-cecal valve; 2 perforations on free margin of bowel about 4 in. (10.2 cm.) apart.	Had been sick 6 wks.	About 4 hours.	Median incision; escape of bile-colored serum on opening peritoneum; perforation closed by deep and superficial sutures; wiping and prolonged irrigation of intestines; gauze drainage; operation lasted about 50 minutes.	D	Death about 9 hours after operation; thought to be due to acute suppression of urine. Patient had specific urethritis when taken with fever.

No.	Operator and reference.	Age and sex.	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
145	Taylor, W. J. Therapeutic Gaz., June 15, 1899.	M. 34	About 10 in. from ileo-cecal valve. Size lead pencil.	About 18th day.	About 4 hours.	Celiotomy; ulcer invaginated and 2 rows fine silk sutures inserted; abdominal cavity washed with sterile salt solution; operation lasted 20 minutes.	D	Death before abdominal wall was sutured. Patient was in very low condition at time of operation.
146	Taylor, W. J. Therapeutic Gaz., June 15, 1899	M. 47	About 8 inches from cecum; pin-head opening.	24th day.	1½ hours.	Celiotomy; on opening peritoneal cavity gas and serous fluid escaped; marked general peritonitis; ulcer invaginated and 2 rows silk sutures inserted; abdomen flushed with normal salt solution; drainage introduced and wound closed.	D	Death in 24 hours from septic peritonitis.
147	Tiffany and Gamble. Personal to Prof. J. M. T. Finney.	M. 26	Perforation 5 mm. in diameter, edges sharply marked; 8 in. (20.4 cm.) above ileo-cecal valve.	In 3d week.	36 hours.	Abdomen contained fluid but no feces seen; general peritonitis; perforation sutured; intestines and abdominal cavity wiped; abdominal wound left open, packed with gauze.	D	Condition very bad after operation; rallied somewhat, but died 12 hours later.
148	Thurston, E. O. Hawkins and Thurston, Lancet, 1899, ii, 1004.	F. 11	Perforation in anterior cecal wall; ½ inch in diameter, surrounded by indurated tissue.	41st day.	About 15 hours.	Median, 4-inch incision below umbilicus; on opening peritoneum escape of large amount of sero-purulent fluid with faint fecal odor; margin of perforation excised; closed by Lembert sutures; thorough irrigation of abdominal cavity with sterilized water; mopping with marine sponges especially pelvis and lumbar regions; drainage tubes from pelvis and right loin; gauze drain passed upward: operation lasted 25 minutes.	R	Day after operation condition good; escape of considerable purulent fluid for several days. On fifth day after operation, right parotid bubo developed and abscess of buttock at site of injection of saline solution; 21st day, double otitis media; 24th day, effusion into left knee; 60th day, relapse lasting 14 days; Widal test positive; spleen enlarged. A year after illness patient fat and well.
149	Van Duyn, J. Personal.	M. 43	8 inches from cecum; size and outline of a small bean.	19 days after confined to bed; ill several days before.	9 hours.	Median incision; on opening peritoneum escape of gas and thin yellow feces; lymph on intestines and mesentery in vicinity of perforation; closure of perforation with 2 rows of sutures; abdomen cleansed and closed without drainage.	D	Death 55 hours after operation from peritonitis.
150	Wanach, R. Rep. by Gesselowitsch M. St. Petersburger med. Woch., 1898, xxiii, n. f. 15, 21.	M. 24	Two perforations, 21.6 cm. and 41.6 cm. from cecum.	About end of 2d week.	18 hours.	Median incision from umbilicus to symphysis; escape of sero-purulent fluid on opening abdomen; peritoneum injected; fibrinous deposits on intestine; perforations closed with Czerny-Lembert suture; numerous antiseptic tampons inserted in all directions; wound left open.	D	Patient in very low condition after operation; stimulants and infusion of salt solution unavailing. Death 43 hours after operation; disease of very severe type; at necropsy very numerous intestinal ulcers, abscesses of spleen and mesenteric glands, ulcer of larynx, etc., were found.
151	Willard, De Forest. Annals of Surg., 1899, xxix, 503.	M.	4 in (10.2 cm.) above ileo-cecal valve; just large enough to admit grooved director.	15th day.	Between 5 and 6 hours.	Incision in right semilunar line; escape of ill smelling, greenish-yellow serum and feces; ileum greatly congested, several thin ulcerated areas; perforation closed by interrupted Lembert and second continuous sutures; irrigation with hot sterile water; large glass drainage tube inserted.	D	Death almost immediately after operation.
152	v. Winiwarter. Rep. A. Polis, Ann. Soc. Méd. Chir. de Liége, 1897, xxxvi, 266.	M. 18	3 perforations found in small intestine near cecum.	. . . . .	About 2 days.	Median incision; escape of sero-purulent fluid with feces; lymph flakes adherent and appearance of septic peritonitis; perforations sutured; operation hastily completed by tamponing abdominal cavity because of patient's bad condition.	D	Death 18 hours after operation; necropsy confirmed diagnosis of typhoid fever.
153	Windiasiow, C. W. Rep. by Gessolowitsch, St. Petersb. med. Woch. 1898. xxiii, n. f. 15, 21.	. .	. . . . .	. . . . .	. . . . .	Perforation not found at operation, but fecal fistula developed a few days later.	R	Recovery.
154	Woodward, S. B. Boston Med. and Surg. Jour., 1898, cxxxix, 514.	M. 18	Small intestine; opposite mesentery; size of a pea.	About the end of 2d week.	About 9½ hours.	Median 3-inch incision; 6 inches of intestine thickened, red, coated with lymph; whitish fluid and feces in abdominal cavity; edges of perforation excised and closed with double row Lembert sutures; flushing with normal salt solution; suture without drainage.	D	Patient nearly moribund at operation; free stimulation, oxygen inhalation, elevated foot of bed, etc; lived 9 days in typhoid state; no symptoms of peritonitis; wound gangrenous at time of death; abdominal cavity uninflamed except slightly in region of sutures.
155	Champlin, S. H. Personal com. "The Plexus," v. 5, 164.	M. 10	Perforation not found.	During 6th week.	3 days.	Incision; turbid fecal fluid; cavity entered, formed by firm peritoneal adhesions, left of median line, below McBurney's point; tube and gauze drainage.	R	Recovery; bacteriologic examination demonstrated, typhoid bacilli, colon bacilli and various monococci. Widal reaction positive.
156	Champlin, S. H. Personal com "The Plexus," v. 5, 164.	M. 22	Perforation of ileum, about 30 cm. from ileo-cecal valve	14th day.	. . . . .	Median incision; fecal fluid in abdominal cavity; intestines and omentum much inflamed; perforation closed by transverse continuous suture and omental graft stitched over; toilet of the peritoneum and drainage.	D	Reacted well, but was taken with vomiting and persistent cough, and died 3 days after operation. Necropsy showed suture unchanged; peritonitis limited to pelvis about perforation; hypostatic congestion of lungs; purulent infiltration right side chest and abdomen; Peyer's patches all thickened; Widal reaction positive Bacteriologic examination showed muscles infiltrated with streptococci.
157	Champlin, S. H. Personal com. "The Plexus," v. 5, 164.	M.	Perforation 20 cm. from ileo-cecal valve.	At the end of 1 month.	. . . . .	Operative treatment as in preceding case.	D	In spite of free stimulation patient did not react and died 10 hours after operation.
158	Salcoby, N. M. Philadelphia Medical Jour., 1899, iv, 270.	M.	Pin-hole perforation in thickened and inflamed Peyer's patch, 18 in. from ileo-cecal valve.	13th day.	About 24 hours.	Incision 3¾ in. along outer border of rectus abdominis below umbilicus; escape of straw-colored serous fluid; longitudinal infold of intestinal wall and continuous silk suture, reinforced by continuous catgut suture; 2 other thinned areas sutured; intestines wiped; gauze drainage from both iliac fossæ and from Douglas' pouch; operation lasted 1 hour.	R	Slight nausea and vomiting during first day after operation, but no pain nor tenderness; nutrient enemata and free stimulation; recovery from operation was uneventful. Fever lasted 25 days and relapse 16 days, but eventually perfect recovery.

four hours, which is 29.09 per cent.; or in the second twelve hours, which is 30.76 per cent.; after twenty-four hours the recovery rate falls to 13.63 per cent.

TABLE SHOWING RECOVERY RATE OF OPERATION ACCORDING TO THE NUMBER OF HOURS AFTER PERFORATION OCCURRED.[4]

	Died.	Recovered.	Percentage of recoveries.			
Under 4 hours	6	2	25.	19.44	15	25.33
4 to 8 hours	11	1	8.33			
8 to 12 hours	12	4	25.		29.09	
12 to 18 hours	17	8	32.	30.76		
18 to 24 hours	10	4	28 57			
Over 24 hours	38	6	13.63			
Not given	27	12	30.74			
Total	121	37	23.41			

These figures, so far as the number of cases justify us in drawing a conclusion, certainly carry out the statement which I first made. It should be modified, however to read that during the first eight hours, the chances of recovery are only about one-half of that which obtains during the rest of the first twenty-four hours.

It is to be remembered that most of the operations done under four, or even eight, hours must have been in hospitals, for in a private case it is practically impossible to summon the physician and then the surgeon, make preparations and do the operation in so short a period after the perforation has occurred. Moreover, the patients operated on in hospitals have not only facilities which do not exist in any private house, even the best, but they would have the services of men on the hospital staffs, on the whole more skilled than many of those who operated on other cases, yet the mortality rate is almost twice as great in the first eight hours as in the next sixteen.

I am convinced that this is due to shock. If there be no shock or it is only slight, no surgeon would allow the contents of the intestine to flow into the abdominal cavity for a moment longer than is possible, but if there be shock and, especially grave shock, I believe it to be the duty of the surgeon to wait for a reasonable time for at least a partial recovery from that serious condition. I can not agree with Taylor when he states that the shock is due to sepsis and not to the perforation. Thus Fitz states that of 80 cases, the onset of the symptoms was *sudden* in 56, while in 15 they were gradual or latent, and in 5 there were none. Finney says: "where marked symptoms of shock and collapse were present at the time of operation, the prognosis was distinctly influenced for the worse," and again, "the signs upon which most dependence is to be placed are sudden pain in the abdomen with symptoms of collapse accompanied by an abrupt fall in the temperature, it may be even several degrees." All that we know of shock, it seems to me, corroborates this view. How many of us have seen the serious shock produced by a finger pinched in a door, or other similar accident in which the element of sepsis can not possibly enter. Look at the records of perforation in gastric ulcer and see in how many such cases, similar to those of typhoid perforation, the patients fall down in collapse. It is the pain of the perforation and extravasation and not the sepsis which produces the initial shock. The first moment possible after this has subsided is the time to operate. Were it due to sepsis, then the initial shock should be slight and should steadily increase with the increasing sepsis; but as a matter of fact the initial shock is the greatest and is followed by more or less subsidence of shock.

Taylor's view that the shock is due to the size of the opening, and, therefore, to the rapidity of extravasation, while theoretically true, is scarcely substantiated by a reference to the tables. This point not having been in mind when the tables were made, the size of the opening is not noted in each individual case, but I find 54 cases in which the size is stated. I have tabulated those as "large" openings that were larger than a lead pencil (about a quarter of an inch) and as "small," of lead-pencil size or less. I find that in 25 cases with large or multiple openings, the deaths were 19 and the recoveries 6, a recovery rate of 24 per cent.; in 29 cases of small openings, the deaths were 20 and the recoveries 10, an operative recovery rate of 33 per cent., or 9 per cent. more.

It is possible that larger statistics by changing the facts will change my views to some extent, but I doubt if operations done during the presence of severe shock will ever prove as successful as those undertaken as quickly as possible after primary shock has passed away.

On the one side is the shock, on the other the increasing infection of the peritoneum. He will be the best surgeon, as he is the best sailor, who avoids both Scylla and Charybdis.

To avoid both of these dangers, if possible, Cushing has proposed to operate in what he terms the "preperforative" stage. Should it ever prove possible accurately to diagnosticate the preperforative stage, that, unquestionably, will be the most favorable time for operation. I quite agree with Finney in his belief that so far as operative technique is concerned—with the exception of one point to be alluded to a little farther on—we have probably progressed nearly as far as we ever shall. Our future increased success will depend far more on our accuracy of early diagnosis, and especially if it should prove possible accurately to diagnosticate an impending rather than an actual perforation. I would urge most strenuously, therefore, that, as in appendicitis, the surgeon should be called in at the earliest moment when any abdominal symptoms indicate possible perforation. Preparations can then be made beforehand and, should the symptoms call for it, an exploratory operation should be done after the fashion proposed by Finney. These, I think, are the two most distinct advances that we have made in the last two years in the treatment of typhoid perforation; viz., the possible diagnosis of an impending perforation, followed by immediate operation and exploratory operation under cocain.

4. *How shall we operate?* As already indicated, the most important recent advance in the technique is the use of cocain instead of a general anesthetic. This was first used by Cushing in two cases. In a personal letter to me he reinforces his suggestion and says: "I think local anesthesia is a great step in advance. I shall never use general narcosis again in typhoid." To this Finney adds the suggestion "that in any case in which the diagnosis is obscure and there is reason to suspect the existence of a perforation, a small incision be made under cocain anesthesia . . . and that cultures be taken from the abdominal cavity. . . . This exploratory incision would be followed by very little disturbance to the patient and very slight risk. If the presence of a septic peritonitis is determined, this incision can be enlarged and the operation for the relief of the perforation and peritonitis can at once be car-

[4] Cases operated on "8" hours, "12" hours, etc., after perforation are included, respectively, under "4 to 8 hours," "8 to 12 hours," etc.

ried out." Still more, if we can diagnosticate the preperforative stage and anticipate both shock and sepsis, we shall have made an important further step in advance.

A very brief summary will be sufficient to indicate the further technique. The incision would be best made in the right linea semilunaris, or through the rectus muscle. If such a general peritonitis be present that this will not enable us thoroughly to cleanse the abdominal cavity, a second incision may be made in the left iliac fossa.

The perforation should be sought: 1, in the ileum; 2, in the adjacent cecum and appendix, and 3, in the sigmoid, where it occasionally occurs. One case of perforation in Meckel's diverticulum (109) has been reported. When found, the perforation should be sutured without paring the edges, which is both a loss of time and tissue, and also involves possible hemorrhage, to arrest which more time must be consumed. All of the thinned area should be included in the suture. The occasional wide extent of this area is well shown in Plate V in my book. The suture should not be continuous, but Halsted's mattress suture. If a second row of sutures is deemed necessary, this may be continuous, as it saves time. The amount of inversion of the bowel must not be such as seriously to impair the lumen of the gut. Should the perforation be very extensive, or should two or more adjacent perforations render it necessary, a resection and anastomosis of the bowel may be made. Of 7 cases of resection, 3 (31, 40 and 124) recovered. Should there be found other points of impending perforation, these should be sutured as a preventive measure. Some patients who apparently should have recovered have been lost by a later perforation; 2 died from subsequent hemorrhage (100, 139). In 5 the appendix was removed without a recovery.

The cleansing of the peritoneal cavity is one of the most important steps in the operation. Unless this is thoroughly carried out the operation will certainly prove futile. Whether it shall be done by flushing or wiping or both must be decided by each operator at the time.

Drainage in most cases will be necessary, but I quite agree with Finney that "many cases in which we have heretofore been accustomed to drain would recover more promptly without it. . . . If the inflammatory process has not been of too long standing and the peritoneal cavity can be at all satisfactorily cleansed, it will be better to fill the cavity with salt solution and close the wound." Of seven cases not drained, two recovered.

Speed in operation is an important factor in recovery, as would naturally be supposed in cases which are so unfavorable in consequence of the existing fever and its concomitant exhaustion. Only one case (107) in which the operation lasted an hour or over was followed by recovery. A number have been done in from seventeen to thirty minutes. On the other hand, in our anxiety to complete the operation quickly, we must never sacrifice thoroughness, both of closure of the perforation and of cleansing the peritoneal cavity.

One criticism by Cushing, of a statement in my book, I feel is just. I said: "I can scarcely think that we would ever be justified in reopening the abdomen. . . Possibly a very exceptional case might justify such a procedure, but a typhoid patient rarely escapes with his life even after one operation and could not be expected to survive a second. The same remark would apply to any new perforation which might occur. Such cases must, unfortunately, be left to their fate." The experience in Cushing's first case in which three operations were done and yet recovery followed, and the extraordinary vitality exhibited in Finney's third case "who, subsequent to the operation, suffered two relapses, one of great severity, a suppurating otitis media, a left sided pleurisy, a right sided femoral phlebitis, a severe neuritis of both legs and the painful toes so common after the cold bath treatment," and his fifth case, "who, on the twenty-second day was again operated upon for relief from obstruction of the bowels," show that we ought never to despair of any case.

CONCLUSION.

My views on the operative treatment of typhoid perforation may be summarized, therefore, as follows:

1. The surgeon should be called in consultation the moment that any abdominal symptoms indicative of possible perforation are observed.

2. If it be possible to determine the existence of the preperforative stage, exploratory operation should be done under cocain anesthesia before perforation, shock and sepsis have occurred.

3. After perforation has occurred, operation should be done at the earliest possible moment, provided:

4. That we wait till the primary shock, if any be present, has subsided.

5. In a case of suspected, but doubtful perforation, a small exploratory opening should be made under cocain to determine the existence of a perforation, and if hospital facilities for a blood count and for immediate bacteriologic observation exist, their aid should be invoked.

6. The operation should be done quickly, but thoroughly and in accordance with the technique already indicated.

7. The profession at large must be aroused to the possibility of a cure in nearly, if not quite, one-third of the cases of perforation, provided speedy surgical aid is invoked.

THE PHYSICIAN IN HAWAII.

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LOS ANGELES, CAL.

As disease and death have prevailed among all people, from the earliest period, so physicians have always been a necessary evil. Since the day Adam got rheumatism cooling off too quickly after his day's work, and Eve became subject to nervous headaches, worrying over the meals and the children, the doctors have been with us, and, unless they meet with better success in discovering "elixirs" in the future than they have in the past, bid fair to stay by us forever. The Indian medicine-man was a unique character, and a person of some prominence among his tribesmen. Like the average practitioner in some little town, he could afford to dress better than his fellows. So in Africa, and every other country, the doctor is a distinguished individual, because from the very nature of his subject, no one except another doctor can say that he doesn't know a great deal about medicine.

In those early ages physicians acquired that wise, masterful look, and the silent tongue, which have remained with them to this day. The Asiatic patient extended his hand to the living X-ray, who took his pulse, and thereby gazed through his anatomy, viewing his beating heart, enlarged liver and other delinquencies, as clearly as if they lay on the table at his touch. The modern patient comes to the physician in much the same way, expecting him, by some unexplained, supernatural method, to see through his tongue into his stomach; to be able to count the microbes as they frolic in his lung tis-

sue; and the smaller the doctor, the more he panders to this false reverence. The Hawaiians had physicians, and plenty of them. They were called *kahunas,* and belonged to about a dozen different schools. At this time it was very generally believed by the Hawaiians that all diseases were directly brought about by evil spirits. No doubt some of them were. They also thought that the *kahunas,* who professed to be able to communicate with the gods concerned in any particular case, were the ones to propitiate these gods. This was good reasoning based on false premises. With the same notion people often go to the quack, believing, because he says so, that he can propitiate the 501 different organisms working their destruction. If a chief became very sick, offerings were made in the temples, and sometimes human sacrifices. In ordinary cases the *kahuna* was called in, and he forthwith set about to conciliate the god whose feelings had been hurt. Professor Alexander says that "certain vegetable remedies were used, but their efficacy depended entirely upon the good will of the spirits."

This school, called *kahuna lapaau,* corresponds to one of our latter-day systems, the efficacy of whose remedies depends entirely on the amount of faith the patient is able to place in them. I knew a child that ate at one sitting a bottleful of aconite pills. As the child could exercise no faith, one way or the other, the medicine didn't give it even indigestion. With faith not too much triturated, the child might have died of collapse. This is why the system is so popular among mothers. They know by experience that their faith and the doctor's pills will work wonders, but that pills alone, no matter how many or of what sort, may be eaten with impunity. They have never tried faith alone, or they would dispense with the pills. The *kahuna,* like the modern doctor, was something of a hand at prognosis. That is, he could foretell certain approaching events. I knew a doctor who, about twenty minutes before the death of his patient, would take out his watch, turn to the sorrowing friends, and say, "He can not live over an hour." The Hawaiians went by omens, however. If a patient had a "bilious" attack they often put him on a pile of hot stones, covered with wet leaves, and left him there, enveloped in layers of *kapa.* Under the influence of the combined action of damp climate and lithic heat the man perspired, after which he was dipped into salt water—into the sea—where he cooled off. If he did not improve, he was fed with baked squid. If the man still failed to get better, the doctor did not give up. He asked for a consultation, calling in a medium that had "familiar spirits;" a man who knew a spirit that was able to expel the one that was causing the trouble. There were *kahunas* who employed departed spirits, others who acted under the influence of a "wind," or spirit, and indulged in tricks similar to table-rapping. There were the *kahunas,* who, instead of helping people out of sickness,

ROYAL PALM AVENUE TO QUEEN'S HOSPITAL, HONOLULU.

prayed them to death by various methods. Actuated through motives of revenge or gain, the *kahuna* selected his victim, then secured some of his personal property, like a bit of finger-nail, or some hair, and began a series of offerings and incantations. It is suspected by those who knew, that a little poison came in opportunely. Very likely, and, acting on such emotional, superstitious people as the Hawaiians are, it is easy to understand how the consciousness of a powerful, malevolent, impersonated design on their lives might finally cause death. Appetite and digestion would become impaired, the secretions disturbed, sleep lost, functional troubles ensue, followed by a nervous breakdown. We have seen the same picture in America, the patient imagining that he is afflicted with some fatal disease. Kahunaism is practiced by the Hawaiians to-day, but to a lessening extent, and largely under cover. Yet it places, in the foreign physician's way, the greatest obstacle to successful work among the natives, and is the cause of much suffering and many deaths. Occasionally a death occurring as a result of malpractice will come to public notice, and the *kahuna* be imprisoned or fined for the offense. While this protects society somewhat, and has a good moral effect, it can not remove the superstition. Only education can do that. Many a broken arm or leg is taken to the *kahuna,* who bandages it up with *koali,* the convolvulus vine common all about. In this way the saddest kinds of deformities result. Very often, indeed, the carefully applied splints and bandages will be taken off the instant the doctor rides away, and in their place *koali* applied. Every two years the government inquires of its physicians concerning kahunaism in their districts, and the following answer, copied from one of the late reports, corresponds to the larger number: "The practice of *kahunas* in this district is, I am confident, quietly carried on. The Hawaiians will not expose them, and investigation only elicits falsehoods and assertions of ignorance. Nearly every group has its family *kahuna,* and Honolulu furnishes the shrewd ones upon occasion. I have frequently met with the evidence of the presence of these mystery workers, and, in the circle about the sick bed, easily noted the one "with power; yet under no inducement will they give any knowledge of the proximity of any such." But their power is most certainly waning, as it must have begun to do the day Christian teachings took root. Superstition is the hardest of all evils to eradicate. It is not out of us yet, especially medical superstition, and, strange as the statement may appear, seems compatible with a fair degree of education. Read over the "testimonials" found in any patent medicine pamphlet, written by ministers, who consider themselves orthodox religiously. Count the number of deaths resulting from the practice of "Christian Science" in the most civilized country in the world. Go back to the little country town with its traveling dentist: its nostrum vendor, in the glare of his torchlight, handing out bottles of panacea at one dollar a bottle: its London or Berlin "specialists" lodged at the hotel, and its glib-tongued peddler selling electric belts and lead rings to teacher and tailor alike. When we consider all this, we must acknowledge that the Hawaiian, just emerged from his primitiveness, is grasping truths quite as fast as he can assimilate them. During his reign, Kalakaua, who was at heart inclined to the superstitions of his fathers, granted to *kahunas* the right to practice their machinations, much to the prejudice of respectable physicians, and to the cause of morality generally.

Fortunately for a people addicted to injurious customs, and living in a tropical country, whatever waves of sickness reached here came at rather long intervals, and were not so persistent as one might expect. In 1805, Kamehameha I's army was attacked with a disease known as *mai okuu,* literally, a sickness that makes one let go. It let a great many go, and was probably either cholera or the bubonic plague. According to a native writer, as many as 400 died during one day in one place. This lasted three months, and in all likelihood came from China. The next episode in this line was a rather short-lived epidemic of la grippe, followed in 1848-49 by measles, introduced from Mexico. The soil was new, and the disease took hold with alarming rapidity, proving, to the susceptible population, a malady of great fatality. In some districts there were not enough well persons to provide food for those who were ill. One-tenth of the people died. Also, on the heels of this scourge came whooping-cough, taking away most of the children under one year old, after which a general influenza prevailed, greatly enervating the most of the convalescent population. In May, 1853, smallpox arrived from the Coast. The Board of Health took active measures to check its spread, and thought they had, but in July it broke out afresh. Of 6405 persons who had it, 2485 died, costing the government $30,000. Since 1850 the population has decreased by 11,027 persons. This same disease was introduced in 1871 by some whalers, and again in 1872, but the authorities were able to check both epidemics. The last smallpox epidemic occurred in 1881, having been brought from China, and 282 persons died. As a result of these periods of disaster, the legislature passed a law making vaccination compulsory. This is effectually carried out by the government physicians, who are required to visit the schools each year. Annually, in his district, each physician vaccinates all those who can not show the desired scar. The law reads: "Parents and guardians are required to take their children to the vaccinating officer within six months after their birth."

The most recent scare Honolulu has had was that of 1895, when cholera was introduced by the *Belgic,* from Yokahama. She had on board 500 steerage passengers, three of whom died on the way out; she was twelve days making the trip. When the ship entered Honolulu harbor, August 9, one passenger was found suffering with cholera. He died next day. The immigrants were placed on the quarantine island, and steps taken by the Board of Health to prevent dissemination of the disease. The city was divided into ten sanitary districts, each being inspected by a physician. The water-supply was at once attended to, squads of men were set to work cleaning yards and streets, the use of fish and the assembling of crowds were forbidden, fumigation and disinfection rigorously carried on, a cholera hospital was established, and a bulletin issued twice daily. A house-to-house canvass was made, and premises thoroughly cleaned. Travelers and freight from island to island required a special permit, while several of the foreign steamships refused to carry Hawaiian mails. In thirty days the epidemic was at an end, having cost $61,697.55, and sixty-five deaths. Great credit is due the Board of Health for the methods it employed, and for the energy with which it employed them, stamping out, in so short a time, such a formidable disease. W. O. Smith, president of the Board of Health, is a "missionary," whose efficient efforts at that time saved a good many of the "antis" from going where they pre-eminently belonged.

The Hawaiian Board, which has been a safeguard to the country more times than one, was organized in 1850, with Dr. Rooke, Queen Emma's father, as president. Nine years after, Kamehameha IV and Queen Emma

NATIVES PREPARING PAIAI—COOKED TAIO—THE NATIONAL FOOD.

founded the Queen's Hospital, canvassing the Honolulu people for subscriptions. Later, generous endowments were left. Since then the Malulani Hospital, Maui; Cottage Hospital, Kaola, Kauai, and hospitals at Waimea, Kauai, and Hilo, have been established. These are provided with a physician, who is the medical superintendent; nurses, attendants, and all the necessary equipments of a dispensary. Here any sick natives may come and be cured free of charge. In these hospitals are found Caucasians, natives, Chinese, Portuguese, Japanese, Gilbert Islanders, negroes, and stray individuals from all countries, affected with almost every disease. The matron and nurses at the Malulani Hospital, one of the largest outside of Honolulu, are Franciscan Sisters, whose skilful care has the testimony of many a discharged patient. The Board of Health employs some twenty-six physicians, called "government physicians," who preside over the hospitals, asylums, jails, leper asylum, leper-receiving station, and the various districts of the islands, receiving from $720 to $2100 a year. This

NATIVE HOMES.

is given as a sort of bonus to provide the residents of the sparsely settled districts with reliable medical attention. The physician, besides treating all indigent persons, more particularly Hawaiians, without charge, examines leper suspects, who are sent to the receiving station at his order; inspects all schools in his district once each year, for "evidences of infectious and contagious diseases," vaccinating these, and furnishing the government with monthly, quarterly, biennial and hospital reports, in which are recorded the names of the patients treated, disease, number cured or benefited, and those who have died. Each school child must be given a certificate of examination and vaccination. Calls must be answered at any time, while the physician furnishes everything except medicine. Conscientiously held, the position is far from being a sinecure. But where work is duty it has its satisfactory side. At the ports, physicians have extra duties. In Honolulu the city physician dispenses drugs for a very large number of natives. Besides his salary, the government physician has whatever plantation work there may be in his district, for which he is paid a small stipend. For $600 a year he may have to attend to all the medical wants of 2000 or more creatures who are often sick. The plantations are obliged to provide medical attendance for their "shipped" labor, and many times the physician is called into court to testify that Mr. Number 862 is quite able to go to work; or that Mr. Number 900 has little the matter with him. If there be foreign residents in the district, they employ and pay the physician. It is the government's purpose to adjust the salaries of its physicians to the amount of labor they perform, and the revenue they derive from outside practice, and this is generally done. A large number of American doctors have applied for positions under the Board, but I can not see what satisfaction or benefit it would be to them to go there, unless they need the climatic change, or would derive satisfaction from the performance of this kind of missionary work. That is its greatest reward. Indeed, without this spirit, I doubt whether a man is qualified to enter the service. A man who is not a humanitarian will find the work disagreeable and unbearably irksome, because it is with members of a class that pays no attention to his directions; a class most unesthetic in every way, and one which, unless he be in a hospital, will give him no clinical satisfaction, as the course of the various diseases he treats can not be closely followed. It is, however, a good field for the study of skin diseases, particularly leprosy.

The natives are not able to get along without certain drugs, for which they call very often: *paakai* or Epsom salts; *hualo*, pills; and *aila*, castor-oil. The way they will swallow the latter, and pour it down the throats of their poor babies, is no less than amazing. A native will come into the reception room, and sit down; or not come in at all, but sit on the steps, or squat on the lawn in front of the house, and wait. He does not mind waiting, in the least. After a time he will cough, or grunt, and when you come out, say, touching the spot indicated, "pilikia." He is not a satisfactory patient, for he will evade a direct answer until you are ready to give up in despair. *Eha opu*, pain in the stomach; *eha kino*, pain in the body, etc., are all the history he will furnish. Sometimes he will prescribe for himself, asking for calomel or a special ointment, or his favorite "pain-killer," being very particular as to quantity, color consistence, and smell of the article given. A few days ago a native came for some oil, and would not go until he got a quart bottle full; a bottle that had not been opened. He wanted it for himself, his family and neighbor's family. He had come twenty miles for it, over sand dunes and lava beds; and he got it. Occasionally the doctor is called away to a native house, always in great haste, as the patient is reported to be on the eve of dissolution. Sometimes it is true, but oftener he has a slight ailment like toothache or rheumatism. The friends do not seem to be able to discriminate between the cases that require haste, and those which do not. If the doctor is to come, he might as well run. I went three miles one dark night to see a patient who had hurriedly summoned me by telephone. When I reached her, she was out in the yard talking to some neighbors. She received me, gave me a chair, then told me incidentally that she had felt a pain in her side for three months. If the patient has been sick for a long time, when he arrives, the doctor may find a dozen friends in the room, some of them weeping.

THE CHINESE CONSUL AND FAMILY.

When the patient has died, a well-attended funeral takes place, with several choice wailers; and then the house is vacated for a few weeks. It is the same if a death occurs in the hospital; nearly all the natives in the other wards will leave. For the same reason they object to autopsies being held on the bodies of those at their disposal. Their home remedies and methods of treating disease are much like those common to ignorant people the world over. *Lomilomi*, a scientific massage, is practiced by men and women alike, and is conducive to rest and comfort. After a long, weary tramp, or a horseback ride; after a fall, or when the muscles are sore and stiff from any cause, an hour or less of this friction, when every muscle is rubbed, and pressed, and squeezed, will make a new person of you, and send you to sleep. Jarvis writes: "However wearied he may be, fatigue soon leaves him, each muscle is kneaded, each joint cracked,

and the whole corporation thumped, pounded and squeezed until every old ache and chafe is fairly driven out of it." They bind up sores with macerated herbs, burn out warts, bathe in the river for measles, make their sickrooms dark and close, and walk about just as long as they can. One day Dr. Smith, brother of the attorney-general, told me he had met a native with a dislocated right shoulder, and that he would try to persuade the man to let us do something for him. After a considerable time the doctor was successful, and we went down to the house. The man was the husband of a former governess, and when we reached the house, everyone was sitting out-of-doors, on the ground, bare-foot and happy. Placing the man under the influence of an anesthetic we worked for several hours, but could not correct the trouble. The accident had occurred a month or two previously, and shows the nature of a physician's duties in Hawaii.

NERVE LEPROSY.

TUBERCULAR LEPROSY.

I shall never forget the unselfish interest taken by Dr. Smith, whose life was at last sacrificed for the people whom his father, also a physician, came to uplift. Here as elsewhere, one must not be impatient of results. I was called to a native house one night to attend the birth of a child. A rather pretty girl, not over 16 years of age, lying on a mat on the floor, proved to be the mother. A wrinkled old crone, with an unenviable *kahuna* record, sat near by. I ordered the girl placed on the bed, left some other directions, and promised to come back in the morning. When I returned I found the girl again on the mat, and no one within call. As I had quietly slipped in without knocking, I caught the girl with a letter in her hand. It was blotted with tears, which flowed down her cheeks, and her sobs filled the room. When my presence became known, she calmed down, and told me the whole story. She had been betrayed by a young white man of good family, who lived in Honolulu, and coming here to this little hut under the *kahuna's* care she had escaped the inquiries she dreaded. Her lover had promised to marry her after a time, but now that the baby was born, he had sent her money, and told her he could not marry her, as his parents objected on account of his youth. She didn't know what to do. My heart was strangely touched: "Come to my house," I said, "and we shall arrange the matter." That day she was placed in a room, where she had an uneventful convalescence. I wrote to her father and mother, relating the details, of which they knew nothing; wrote to the foolish boy, as I would want some one to write to my son if he ever went so far wrong, and then talked to her. She could not nurse the baby, so one of her aunts took the child. Natives are always ready to adopt other people's children, and loan their own. After she had entirely recovered we saw little of her, but she sought her own people. Later she left us, and in a week had married a half white who met her a few days before the event. She never came near us again, and the only time I saw her was when she called me to see her sick baby, which she had taken back. She had nothing to say about the past, and I forbore saying anything, but I thought to myself that my effort at reforming native girls was rather a failure.

The government physician's patients are the foreign residents, the half white, a few independent natives, Portuguese and scattering Asiatics, in his district, which may include, like my own does, some 6000 or 7000 persons. By far the larger number of Portuguese, Chinese

and Japanese patients are laborers on the sugar plantations. These are distributed among collections of houses, or "camps," numbered for convenience, and furnished with a cook-house at which the men get their meals. Generally the races are separated. The houses are rough board dwellings, white-washed, and partitioned off, with fifteen or sixteen bunks, one above the other, in each apartment. Although the overseers endeavor to have these quarters kept clean, they can not well do it so long as the tenements are held by such a people. The floors are never swept; refuse and a mass of vegetable matter pickled in tubs by Japanese add their smells to the rest, and make the place one from which the physician is glad to escape early. But he must make his "rounds" one or twice a week, attended by a police officer, a Chinese and a Japanese interpreter, visiting all the sick, and prescribing for them; sending the "shammers" to work. It is very difficult to get the Chinese to take your medicine. They have no faith in it, and the custom is to see that each patient takes a dose before the doctor goes. A Chinese sick man may generally be recognized by the congested patches of skin about his neck and back, pinched red for counter-irritation, I suppose. The Japanese cut one or more small patches of hair from the heads and shave the spot, wearing a red blanket over their shoulders to distinguish them. Both apply a peculiar reddish ointment to cuts and sores.

THE PRESENT STATUS OF SURGICAL TUBERCULOSIS.*

A REPORT OF THREE CASES, WITH EXHIBITION OF PATHOLOGIC SPECIMENS.

BY RALPH ELMERGREEN, M.D.
MILWAUKEE, WIS.

The promises of science relative to the causal treatment of tuberculosis have so far remained unfulfilled. The German scientific minds, once carried away by the wildest millennial dreams, now stand humbled on the threshold of great discoveries and bow to defeat. But defeat is godsend here, for it is the only path which can lead to revolutionary discoveries in science.

Koch reasoned well, and with that indomitable will so characteristic of our Teuton colleagues, he followed up his reasoning in the laboratory with an indefatigable energy that still baffles our greatest bacteriologists. A glycerite of dead tubercle bacilli was his reward. Whence came defeat?

The question suggests the answer. If by flawless reasoning and logical deduction we arrive at error, it is time to suspect our premises.

Every exact science calls for a working hypothesis universal in application and immutable as time. Without such a hypothesis there can be no material progress. To illustrate: The atomic theory rescued chemistry from empiricism, mysticism, fraud and death, and placed it on a pedestal that made the discovery of the X-ray possible. Kepler's laws brought forth system from chaos, and reduced astronomy to an exact science. What working hypothesis is responsible for tuberculin and serum-therapy? The laws of immunity. What are those laws? We do not know.

Once establish a working hypothesis, universal in application, bearing on immunity, and your vague ideas of toxins, toxalbumins, antitoxins, etc., will resolve themselves into simple corollaries, and progress will be possible.

The germ theory is the hypothesis governing all infective and infectious diseases. The theory appeals to every sane mind; it is demonstrable and as universal in its application as the Newtonian theory, and while the latter can only be demonstrated by results, the germ theory admits of rational demonstration. I accept this theory in its naked entirety, without any reservation whatever, as the hypothesis of infective and infectious diseases in general, and of tuberculosis in particular. The doubts raised by speculative theorists as to the causal correlation of germs, germ products, and disease, meet with my unqualified disapproval. But I see error, failure and disaster in the utilization of the germ theory as the hypothesis of scientific treatment. The hypothesis governing disease can *not* serve as the hypothesis of rational and scientific cure. Knowing the toxins, it does not naturally follow that the exhibition of the antitoxins is scientific treatment. The mutual relationship of toxins to antitoxins, or germs to "devirginized" pabulum, is not that of mineral or vegetable poison to mineral or vegetable antidote. Hence I repeat it, it is time we look to our premises and cease groping in the dark for want of a hypothesis. In 1882 Robert Koch discovered the tubercle bacillus. Have we multiplied our talents by one iota since?

The diffidence with which I approach my convictions and essay the great scientific truth of the absolute necessity of a hypothesis of immunity is born of a deference to my superiors and not of any misgivings I may hold as to my position.

A scientific hypothesis, literally and abstractly correct, compassing the chaotic and apparently contradictory phases of immunity as demonstrated by the accumulated data covering a period of more than seventeen years, still remains the unsolved problem of science. Who will solve it? We have the falling apple; where is the Newton?

It is not absolutely necessary that this causal theory be rationally demonstrable, but it is necessary that the universality of such theory should be shown by results.

With these restrictions as our basis, we can not accept the exhaustion theory, nor the antidotal theory, nor even the tolerance theory, as a safe hypothesis of immunity, but in the absence of a scientific theory, we, as logical and scientific reasoners, are constrained to shelve the legion products of German minds and discourage their methods.

What then is the present status of the treatment of surgical tuberculosis? We have no treatment consequent on Koch's discovery, and our only resources are preventive medicine and the knife. Posterity will chiefly profit by the former, for it takes half a lifetime to teach the laity a simple truth, while we must make the best of the latter supplemented by the restorative and hygienic measures of our fathers.

Under my heading—Surgical Tuberculosis—the conservative surgeon can only consider the bones, joints, lymph-glands, skin, mucous membrane, alimentary canal and genito-urinary organs. Tuberculosis of the lungs, which may be either secondary or primary, and causes 75 per cent. of the deaths due to tuberculosis, we unfortunately must relegate to the domain of medicine, as Dr. Murphy's theories can justly only be considered in the light of a surgical experiment.

Tuberculosis of the kidneys, lymph-glands, prostate gland, mammæ, alimentary canal, ovaries, peritoneum, skin and mucous membrane, calls for early removal of the diseased foci, and, if found necessary, and it can be done, removal of the entire organ. The theory that the removal of tuberculous foci or tuberculous organs

*Read before the Wisconsin State Medical Society, 1899.

would hasten the dissemination and aggravation of the tuberculous process in some other organ or part of the body is not borne out by facts. The surgeon should lose no valuable time in any experimental attempts to save the diseased parts, but pin his hope to the scalpel alone. In abdominal tuberculosis, celiotomy per se has a salutary effect, even if, owing to anatomic reasons, it is not expedient to remove all the tuberculous foci. Any delay or conservatism on the surgeon's part, to courageously cope with the disease, is inexcusable, if not criminal. The same may be said of tuberculous glands. You have no alternative. Remove them if systemic infection is threatened. Once your diagnosis is established beyond doubt, rest not until these repositories of tubercle bacilli have been removed. Be liberal in sacrificing healthy connective tissue and overlook not the smallest focus of infection. Reject all injections, cauterizations, and put your trust in the scalpel.

This brings us to tuberculosis of the bones and joints. What treatment shall we pursue here? If there is no systemic infection and the chronic rapid pulse is absent, put the parts at absolute surgical rest, and close not an eye while you wait for results and trust in the inherent resistance of the patient to the ubiquitous germ. Incidentally I would like to mention that the pulse is the safest index we have as to the active or passive presence of the germ, and I regret that so little attention is paid to the careful taking of the pulse at all hours. Months, often years, before we are enabled to diagnose tuberculosis by physical signs or by the microscope, the rapid pulse should put us on our guard. In tuberculosis of the bones and joints, the inherent resistance of the patient reaches its maximum. Apparently hopeless cases often come out well if the parts are kept at rest, for which iodoform injections later claim the credit.

If in tuberculous disease of the bones and joint systemic infection is threatened, operate at once. Lose no valuable time with parenchymatous injections of iodoform, chlorid of zinc, balsam of Peru, nor experiment with the venous constriction (Bier's) method. If the case is of an epiphyseal origin—and 90 per cent. of these cases are, the joint becoming infected secondarily—cut down to the bone, freely exposing all the diseased parts, and remove all foci under the direction of the eye. Do not trust to chance nor to your tactile sense in this. Be careful in sterilizing the skin preparatory to operating, to prevent pyogenic infection of the tubercular area. In operating on cases of epiphyseal tuberculosis, guard against opening the joint unless it is absolutely necessary that you should do so. Be thorough in your work, and sacrifice time and tissue to gain your ends. Use only dry dressings and allow the wound to heal by granulation and contraction or recession. Arthrectomy and excision should never be considered where the soft parts show manifest indication of disease. Amputate early in all such cases.

TUBERCULOSIS OF THE SKIN.

CASE 1.—N. B., a laborer, married, aged 38 years, and father of two healthy children, comes from a sound family and has always enjoyed very good health. A year ago he accidentally cut his hand with a piece of rusty sheet-iron. Fearing blood-poisoning, he had a friend of his suck the wound for about ten minutes. The wound healed without suppuration. Some time later—exact time not known—he noticed a small sore at the edge of the freshly-healed wound. He gave little attention to it until the sore began to look angry and caused him inconvenience. He consulted his family physician and was advised to keep the wound clean and apply an antiseptic salve which the doctor prescribed. Two weeks later the patient consulted me. I made no definite diagnosis, but told him that it looked like a case of incipient lupus I had seen in a hospital, and advised excision or thorough curettement. The patient did not agree with me, and drifted around begging for a "salve cure" for about a month, when he returned to have me excise the nodulous ulcer. I operated under local anesthesia, using Esmarch's bandage to keep a clean vision of the diseased parts. I freely sacrificed healthy connective tissue, and was rewarded by a complete cure.

The wound healed by granulation and contraction, leaving an ugly scar. The microscope confirmed my fears. Later I learned that the friend who sucked the wound, died with pulmonary phthisis. Natural inference is palpable. I fear that these cases of local infection of the mucous membrane and skin are more common than we are prepared to admit, and that the source of infection can often be traced if we care to take the pains. The prognosis is always good if excision is practiced before there is any involvement of the lymph-glands and channels. Let us do away with such differential terms as lupus, scrofuloderma, etc., and put all this under the heading of tuberculosis of the integument.

TUBERCULAR LYMPHADENITIS: EXCISION OF GLANDS.

CASE 2.—Mrs. L. S., aged 35 years, married, mother of two anemic and sick-looking children, presented the following family history: Two brothers and two sisters succumbed to pulmonary phthisis; also an aunt—mother's sister—died with an obscure lingering sickness. The husband is tuberculous in appearance. As a child the patient was scrofulous—I have no objection to this term when used by the laity, as it stands for a correct and complete clinical picture. For the last three years the cervical glands have been visibly enlarged, and became periodically painful. She grew listless, irritable, anemic, and suffered much with constipation, alternating with paroxysmal attacks of diarrhea. Later she had night sweats and a slight elevation of temperature in the afternoon. Her pulse was accelerated, beating between 90 and 100 per minute. It became an effort for her to climb a stairway of a few steps.

I advised immediate removal of all diseased glands. It was a two-hours operation, for every care had to be exercised not to injure any vital anatomic structure. The glands were removed in one mass, with liberal shreds of healthy connective tissue. Two of the lower glands showed imminent signs of suppuration. These we cauterized after excision and allowed to heal by granulation and recession. The S-incision was sutured. The patient improved immediately, is well to-day, and the most careful examination a month ago—two years after the operation—disclosed no return of physical or rational tubercular symptoms.

TUBERCULOSIS OF THE EPIPHYSIS OF THE FEMUR RESEMBLING SARCOMA; ARTHRECTOMY; AMPUTATION.

CASE 3.—This patient was a youth of 16 years; blond, slim, tall, slightly stooped, and narrow-chested. He had an uncommonly expressive countenance, large eyes, long lashes, and a glossy, fair complexion. He was precocious, warm-hearted and boyish in his affection. Here you had a picture of hereditary phthisis, still the family history was negative. There was no tuberculosis on either maternal or paternal side, nor were any of his remote blood-relatives so affected.

I reluctantly took charge of the case after he had been sick several months. He was, in the very beginning, treated for traumatism of the left knee; later, for several months, for mono-articular rheumatism of the left knee-

joint. This is what I found when I took charge of the patient (I copy from my records): Patient very much emaciated, pale, pulse 120 per minute, temperature 102 F., no cough, no pains in lungs, respiration normal; patient was extremely weak. The left knee-joint was badly swollen, with the tibia flexed on the femur. The joint was freely movable, but not without causing intense pain. It measured five and one-half inches more in circumference than its partner. The knee when at rest gave him severe jerking pains at irregular intervals. He suffered intensely with day and night sweats. The outer side of the knee, including the external condyle, felt healthy to the touch, and so did the patella, though it was fixed. Examination of the inner side of the joint disclosed an alarming condition of the soft parts. The integument had a glossy, white appearance. The condyle could not be outlined. Hard pressure was painful to the patient.

I diagnosed tuberculosis—epiphyseal, without or with secondary infection of the joint, and advised early operation. The disease had made too much progress to permit the consideration of the injection of iodoform emulsion.

The dangers from systemic infection were imminent, and I feared a general deposition of miliary foci along the lymph-channels in the lungs. These fears, however, were only founded on my general knowledge of such cases, and not in any way on any subjective symptoms.

Dr. Louis Nolte concurred in my diagnosis and assisted me in scooping out the tubercular detritus. The disease had made extensive inroads on the soft parts, cartilage and periosteum, and we conscientiously removed all diseased foci, rubbed the large cavity with iodoform, and awaited healing by granulation and contraction.

The patient improved somewhat after the operation and the wound looked encouraging, rapidly filling with what we took for physiologic granulations. However, we were doomed to disappointment. The granulations grew excessive, the venous bleeding became uncontrollable, and the outer side of the knee became involved. It was plain to us that something more had to be done to give the patient a chance for life. We made a few iodoform injections in the outer side of the diseased joint with a view of abating pain; in this we were partially successful. The limb became edematous from venous obstruction, and rapidly grew worse, assuming monstrous proportions. A few days later I amputated the limb at the middle third of the thigh—a few inches from the diseased parts. The amputation was bloodless, and the patient evinced no symptoms of shock. He expressed himself as feeling well a few hours after the operation, and slept well the following night. Everything looked favorable; his temperature fell to normal—the first time in months—he was hopeful and cheerful. His pulse, however, remained high. His appetite improved, and he apparently gained rapidly.

On the seventh day after the operation we removed the dressing and found complete union without even as much as a wet stitch. We were rewarded by a beautiful symmetric stump with the cicatrix well toward the back. A week later the patient began to cough, and a physical examination of the chest disclosed râles—mucous, small and large, all over the lungs. In fact, we had all the symptoms of diffuse bronchitis. The temperature fluctuated between normal and 99.6 F.; the pulse between 110 and 135; the cough was painful, paroxysmal and distressing. The left lung broke down rapidly and the patient died quietly five weeks after the last operation, from miliary tuberculosis of the lungs, hastened by an attack of acute bronchitis.

It is needless for me to add that the microscope confirmed the correctness of our diagnosis, while the macroscopic examination of the amputated limb strongly suggested the possibility of sarcoma, and even at this time it is very difficult for me to reconcile the presence of so much new growth with a tubercular process. The disease evidently began in the periosteum of the epiphysis. The early clinical history points to traumatism as the initiative cause in determining the seat of the disease by exposing a place of little or no resistance to tubercular invasion.

ECTOPIA LENTIS: A REPORT.*

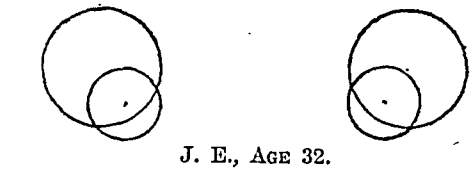
BY C. P. PINCKARD, M.D.

Professor of Ophthalmology, Post-Graduate Medical School; Attending Ophthalmologist Michael Reese Hospital Dispensary; Fellow Chicago Academy of Medicine, etc.

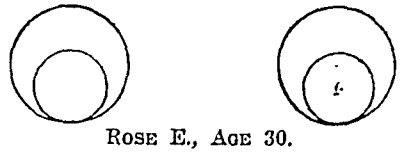
CHICAGO.

In 1893 I had the opportunity of examining two cases of dislocated lenses and of reporting them to this Society[1]. Briefly, they were as follows:

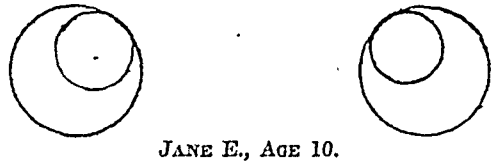
Mr. J. E., aged 32, had always had poor vision, which examination showed to be in the right eye, +9.50=.1; left eye, 9⌒+1.50c. ax. 100°=.5. Examination with the ophthalmoscope revealed both lenses dislocated downward and inward about 2 mm. below the pupillary center. In addition, both lenses showed spicules of opacity.



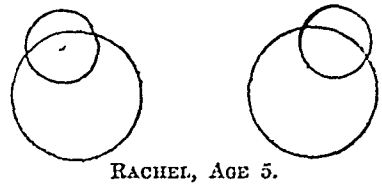
J. E., AGE 32.



ROSE E., AGE 30.



JANE E., AGE 10.



RACHEL, AGE 5.

Miss Rose E., sister of the above, had vision in the right eye, —27=.2; left eye, —30=.1. She was wearing —22 in both eyes. In her case both lenses were dislocated directly downward, but not far enough for the edges to be out of the line of vision. The high myopia was due to the fact that the lenses were much more convex than normal.

At the time of this examination it was stated that Mr. E. had a daughter, aged 4, who was very "near-sighted," but I was unable to examine her.

In August, 1899, Miss Rose E. came to see me, bringing two nieces, the daughters of J. E., because they could not see well. On examination the following conditions were found: Jane, aged 10, vision in the right eye, —16=.2; left eye, —18=.2. The ophthalmoscope

* Read before the Chicago Ophthalmological and Otological Society

1 Med. Standard, Chicago, February, 1894, p. 43.

showed both lenses dislocated upward and inward, but the borders still in the line of vision. Both lenses were free of opacities. In Rachel, aged 5, it was impossible to get vision, as the child was exceedingly shy and lacking mentally. With the ophthalmoscope both lenses were seen to be dislocated upward and outward, but out of the line of vision, and the refraction was highly hyperopic. There is another child, Tom, aged 6, whose vision is said to be all right.

These four are only one of many series that have been reported as showing the effects of heredity on the development of the eye. It is impossible for us to explain the peculiarity that causes the unequal length of the suspensory ligaments, nor why it should be too long above in one case and below in another. If we may assume, as has been done in several reported series, that the poor vision of the mother was due to dislocated lenses, we have here three generations with the same anomaly.

To return to the first two cases, it was pointed out in the report made in 1894, that the dangers of such a condition lay in the possibility of the lens becoming loosened from its attachment to the ciliary processes by the atrophy and rupture of the suspensory ligament; and in the liability of such lenses to become cataractous, owing to the poor nourishment.

It will be remembered that it was stated in the report that the lenses of J. E.'s eyes showed spicules of opacity. Since 1893 this opacity has gradually increased, so that both lenses are now opaque. This perhaps would not be of much importance to him, as the lenses were out of the line of vision, were it not that the other possibility, that is, the rupture of the suspensory ligament, has also taken place in the left, the useful eye.

Strange to say, the zonule ruptured below, that is, on the short side, leaving the attachment to the ciliary processes only a narrow band to the upper and temporal portion. When the zonule gave way below, the lens was drawn up by the tension of the unruptured upper portion, so that the opaque mass was placed in the line of vision and the sight was reduced to perception of light. Mr. E. discovered, however, that if he bent his head far to the left or far back, the opaque lens floated out of the visual line, and he could see again as well as ever. But soon after assuming the normal position, the lens again came back behind the pupil and the vision was reduced to perception of light. Besides the terrible annoyance of such a condition, a great danger threatens this patient's eyes, from the irritation set up by the floating lens, through pressure on the ciliary processes. Already he has had several attacks of pain, lachrymation and redness, showing that a cyclitis is developing, which may destroy not only the left eye, but also the right.

In 1893, Miss Rose's eyes showed the lenses dislocated downward, but the edges still in the line of vision, and the refraction highly myopic. About 1895 she found that she could see much better without her glasses than with them, and in 1896 she consulted an oculist in another city, who prescribed +8.50 for both eyes, and she has worn these ever since; that is from being highly myopic, she became highly hyperopic. I examined her eyes again in August, 1899, and found that the zonules of both eyes had ruptured above, allowing the lenses to sink out of the visual line, that is, the long side of the zonule ruptured in this case instead of the short side, as in her brother's. The rupture, however, is not as yet very extensive apparently, so that there seems little danger from pressure on the ciliary processes. Nor is there any effect like a "trap-door," as in her brother's case. Also, these lenses, free of opacity in 1893, now show many lines of opacity extending from the periphery toward the center.

The question of treatment in Mr. J. E.'s case is a simple one. The lens must be removed; but the operation is a very difficult one, and there is great danger of doing damage to the eye. The difficulty lies in getting hold of the lens in order to extract it. Being loose, it is sure to float out of sight if not fixed behind the pupil before the eye is opened, or the patient placed lying on his stomach, so that the lens will float into the pupil, the operator working from below. I am inclined to use the Agnew bident for fixation, and hope to report a successful extraction in the near future.

It is only fair to assume that the lenses in Miss Rose's eyes will slowly become more and more separated from the ciliary processes, and I am in doubt as to what course to advise. Extraction at present would be much easier than when luxation is more advanced, yet if I could be sure that no further luxation would take place, I certainly should not advise operative interference. For a time at least, they will be carefully watched for evidences of further rupture.

The outcome of these two cases being so characteristic of certain changes in the zonule, warns us to be careful as to our prognosis in the case of the children. So far as could be seen at the time of examination, neither of the children's eyes showed any evidence of stretching or rupture of the zonule beyond what one would expect from the luxated lenses.

EXTENSION MASSAGE OF THE OSSICLES WITH A NEW AURAL MASSEUR.*

BY HAMILTON STILLSON, M.D.

SEATTLE, WASH.

The fibrous bands thrown across the middle ear in hyperplastic otitis media form for the aurist a "pons asinorum." When a sclerotic case presents itself we usually break to the patient the interesting intelligence that nothing can be done for him. Politzer[1] says: "adhesive inflammation of the middle ear does not admit of a restitution of the function of hearing." Gruber[2] says: "the prognosis in plastic inflammation of the middle ear is upon the whole unfavorable." Dench[3] assures us: "the usual course is steadily progressive."

Yet it is the busines of the aurist to benefit such cases. And it has always seemed to the writer that the various operative procedures suggested and practiced by various aurists for the relief of these cases were futile because irrational. Certainly all aurists agree that ankylosis of the foot plate of the stapes with the bony wall of the fenestra ovalis is inoperable. Logically an ankylosis between any two of the ossicula would also be inoperable—or rather let us say that any operation to succeed would look to the entire removal of the offending ossicula. Such an operation "proves too much." It is much more rational to endeavor to absorb the ankylosis while saving intact the natural structures.

Such effort is made in the use of the instrument described in this paper. It is constructed as follows: A soft iron "core" is wrapped in a coil of insulated wire and enclosed in a cylinder. Near each end of the core is placed a metal diaphragm which has air-tight packing between the edge of the diaphragm and the cylinder.

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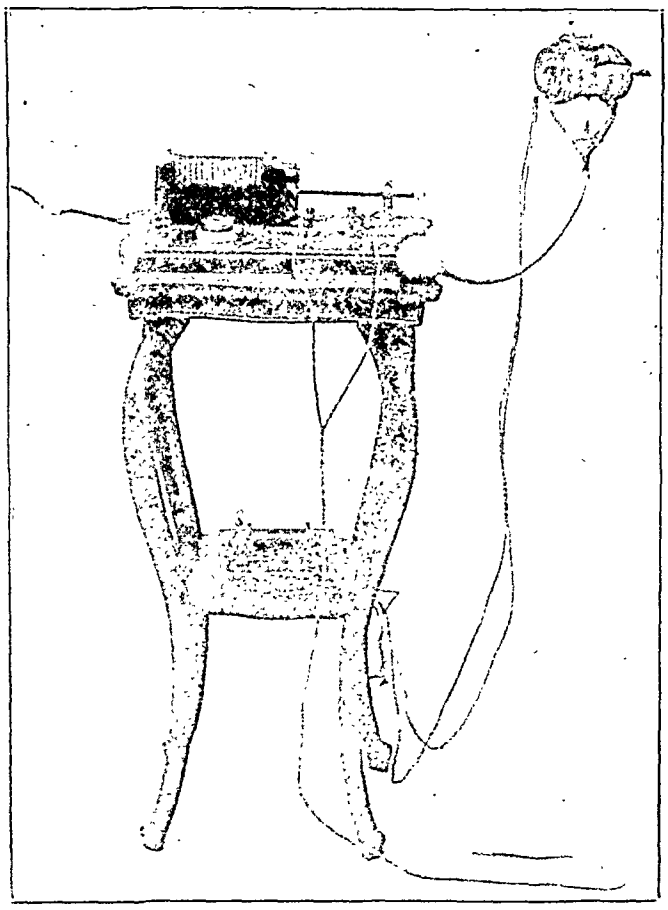
*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

1 Diseases of the Ear, p. 254.

2 Diseases of the Ear, p. 461.

3 Diseases of the Ear, p. 155.

The ends of the cylinder are sealed, leaving an air-chamber between the diaphragm and the ends of the cylinder. There are thus produced three air-chambers, the central one, the one between the diaphragms, enclosing the magnet, and one at each end of the cylinder between the diaphragms and the ends of the cylinder. Leading from the central one is a tube which ends in an ear nozzle. Manifestly, if an interrupted current of electricity be sent through the coil, the diaphragms will be alternately attracted and released. Since both are attracted at the same time, the air in the central chamber will be compressed from both diaphragms and forced outward through the ear nozzle. When the current is released, both diaphragms will spring back into place, compressing the hitherto rarefied air in outer air-chambers and rarefying the air in the central chamber. This to-and-fro movement in the diaphragm thus causes a pumping



or churning of the air in the ear nozzle. The rapidity of the movement will depend on the rapidity of the vibrations or interruptions in the current, and the length and strength of the stroke will depend on the size and tension of the diaphragms. To regulate the rapidity of the interruptions to the current, an interrupter is thrown into the circuit, consisting of a soft iron core wrapped with insulated wire and having a vibrator at each end. On one of the vibrators is a projecting rod with a movable weight. The rate of its vibrations will thus depend on the position of the weight on the rod, slow when the weight is near the outer end of the rod and fast when near the magnet. For a battery, a few dry cells suffice. The regular Westinghouse alternating current with a suitable "transformer" offers a most excellent current.

There remains one very important part of the apparatus yet to be described, and that is the means of putting the ankylosis or adhesive bands on stretch while such ankyloses are being vibrated. Connected with the air-chambers, and hence with the air in the ear nozzle, is a stout rubber bulb which is compressed just previous to the nozzle being inserted into the external auditory meatus; and when the nozzle is thus inserted into the meatus, hermetically closing the meatus, the bulb is released, thus sucking the membrana tympani more or less forcibly outward. Any vibrations of the air in the external meatus would then vibrate the membrane and the ossicula and the ankyloses and the adhesive bands *while they were already on tension.* This is one of the distinctive features of the instrument and one of its principal advantages. In all the many forms of instruments known to the writer that are used to create vibrations in the membrana tympani and its ossicula, none of them do more than to vibrate the membrane to and fro. But the membrane, if it be flaccid, can flap to and fro without vibrating the ossicula in the least. The instrument above described first puts the offending sclerosed tissues on the stretch and then more or less rapidly jerks them loose, so to speak. If, as sometimes appears desirable, the tension should be inward instead of outward, the operator has only to compress the bulb after inserting the nozzle, instead of releasing it as described above. The membrana will thus be pushed inward, where it may be vibrated. In all cases of ankylosis of the ossicula, this latter procedure is to be occasionally used.

I have used this instrument for the last ten years, modifying it in some particulars from time to time, and in its present form it is giving most excellent results. Tinnitus not due to congestion is often quickly relieved. The hearing distance in suitable cases increases steadily, and in cases of recent standing a few applications sometimes suffice to restore the hearing. Other indications besides the scleroses mentioned have to be met by suitable treatment in conjunction with the use of the instrument, and in old and very chronic cases the applications have to be repeated for a long time. But by properly selecting the cases for its application, and by persistently and intelligently applying it, the instrument will be found very beneficial in a hitherto almost hopeless class of cases.

SARCOMA OF FACE AND TEMPORAL REGION.

EXCISION HEMORRHAGE CONTROLLED BY TEMPORARY CLOSURE OF THE COMMON CAROTID ARTERY BY MEANS OF A COMPRESS AND LIGATURE.*

BY JOSEPH H. BRANHAM, M.D.
BALTIMORE.

Peter R., colored, aged 32, single, was admitted to the National Temperance Hospital of Baltimore, September 20, 1898. His family history is unimportant, none of his ancestors, so far as can be learned, having suffered from malignant growth.

He had had the usual diseases of children. When 14 years of age, he noticed a swelling on the left side of the lower jaw; does not remember that he had received an injury on this part of the face. This gradually grew until he was 19 years of age, when it was nearly as large as a man's fist. At this time he entered the City Hospital of Baltimore and had the left part of the interior maxilla, from the symphysis, to the upper part of the ramus, removed—the operation was done by the late Prof. O. J.

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Coskery. I assisted in the case. Six years later he returned to the City Hospital and had a small growth removed from his left superior maxilla.

He entered the hospital for the third operation in the spring of 1894, and in June of that year I removed the left superior maxilla, together with part of the palate bone and the pterygoid process of the sphenoid. After this operation, he states that he remained well, till less than a year ago. While riding an unruly horse, he was struck violently on the left side of his face by its head. After this the large external growth which occupies the zygomatic and temporal regions began to grow. Several months later he was struck under the eye by a base ball and the smaller lump below the orbit appeared. At the time of operation the growth or growths, as there seemed to be two, were of large size, measuring about six inches from above downward and nearly the same from side to side. The external larger growth was firm and elastic, while the inner smaller one was soft. Just below the larger was a firm hard mass the size of a hen's egg, which was the stump of the inferior maxilla, surrounded by thickened periosteum.

Operation was performed September 12, 1898. The parts were carefully prepared by shaving, scrubbing and the usual antiseptic measures. Chloroform was given. The first stage of the operation consisted in cutting down on the common carotid artery, opposite the lower end of the larynx.

The inner border of the sternocleidomastoid was used as the guide. The upper part of the incision was carried outward to avoid the anterior jugular vein, which was large and crossed toward the mastoid process above; the artery was easily isolated, and a large catgut ligature was passed behind it by means of an aneurysm needle. A small sterile compress was pressed on the anterior surface and the circulation controlled by drawing the double ligature against the compress; this device, which was managed by an assistant, worked with entire satisfaction. A long incision was now made from the upper to the lower border of the growth and a shorter one from the middle of this below, to the inner angle of the orbit. The large external mass was now dissected out. It involved the entire temporal fossa, replacing the temporal muscle. It had destroyed the zygoma, part of the malar, and the external angular process of the frontal bone. It involved the tissues of the cheek, invading the mucous membrane of the mouth. Most of the tumor consisted of firm, elastic, flesh-colored tissue, but near its center a considerable and calcareous degeneration was noted. The smaller growth was separated throughout from the larger, by a capsule. It projected from beneath the orbit and extended far back beneath the base of the skull into the sphenomaxillary and sphenopalatine fossa. In removing this part of the growth the hemorrhage was profuse, but was readily controlled by gauze pressure. The hemorrhage during the rest of the operation was slight and was simply oozing.

The deeper part of the wound was packed with sterile gauze, and the usual antiseptic dressing applied after suturing the wound. The subsequent history of the case was remarkable for the rapid convalescence: He was shocked at first, but rallied rapidly after several hypodermic injections of strychnia and the application of hot-water bottles. The wound was dressed on the third day. The patient was up on the fifth day and was out of the hospital on the eighth.

The various specimens removed from this patient at the several operations have been pronounced by the examining pathologist to be spindle-celled sarcoma. The growths in the lower and upper jaw were evidently from different sources, and could not be recurrences, while the three later tumors probably were local recurrences. The mass under the eye seems to have been independent, and was probably a new growth unconnected with any of the preceding foci.

My reason for thinking that this was so, was that the mass was encapsulated and high up; that it came on rapidly after injury and began 3½ years after the removal of the upper jaw.

This patient's history presents many points of interest, illustrating the tendency of malignant growths to recur in the same parts—local recurrence—and in neighboring or remote parts of the body, which can only be explained by a predisposing tendency to this disease, or by accepting the theory of the infectious nature of malignant disease.

The most important thing in connection with the case was the manner of controlling the hemorrhage during the operation; the size and position of the growth made excessive hemorrhage inevitable on attempting its removal.

The great danger of excessive hemorrhage adding to the shock, indeed probably causing some of the dangerous symptoms usually attributed to that condition, and also, by lessening the tissue resistance, predisposing to the various forms of septic infection, makes the conservation of the blood in important operations a matter of the greatest moment.

The device used in this case worked with such absolute satisfaction that I believe it will be often employed in similar cases.

The only hemorrhage of moment occurred when the operation was extended far back under the base of the skull near the median line, when the blood-supply was almost equally from the opposite side. The short duration of the shock and the marvelously rapid recovery of the patient show the great advantage gained by the blood-saving method employed. The incision necessary to close the artery when made and closed without infection adds very little to the gravity of the operation.

The great danger of secondary changes in the brain which cause serious symptoms in about 33 per cent. of cases, and almost as large a percentage of deaths after ligation of the common carotid artery makes that operation one never to be used if it can be possibly avoided.

Will temporary closure of the artery cause such results? On the answer to this question will depend its employment in such a case as I have reported. Only its use in a large number of cases can decide this fact.

In old people or in those suffering from premature sclerosis of the arteries from any cause, I would not employ the operation because even temporary closure of the artery in such conditions might lead to thrombus in the cerebral vessels and precipitate softening of the brain, or the brittle coats of the vessel might break with similar results from embolus, or be followed by aneurysm from the injured arterial walls; employed in young people with healthy arteries and with the necessary care, so that the wound is kept surgically clean and the coats of the vessel are not impaired by drawing the ligature too tight, I feel sure that these dangers, if present at all, are extremely slight. That temporary closure of an artery has no tendency to cause the formation of clots in its caliber when walls are not broken has been demonstrated by the experiments of many surgeons—Murphy Johnson and others. The only other danger then is the injury of the vessel wall, which can be avoided by the use of a large-sized ligature and compress, applied so as

not to bend the vessel or pull it out of its normal position, (I used a large catgut ligature soaked in sterile water and applied double), and the possible effect of the temporary cutting off of the cerebral circulation, I am sure is very slight, if it exists at all.

On the other hand, the advantages of this method are very great. In addition to prevention of excessive hemorrhage by putting the local circulation under our control, it enables us to make a more careful and thorough dissection, decreasing the danger of leaving infected parts and thus not only decreasing the immense danger of the operation, but by lessening the probability of local recurrence, also diminishing the remote dangers.

CITY MILK ROUTES AND THEIR RELATION TO INFECTIOUS DISEASES.*

BY ERNEST WENDE, M.D.

BUFFALO, N. Y.

We are no longer in a land of conjectures and surmises in dealing with city milk routes and their relation to infectious disease. They concern the municipality. No matter how efficient its sanitary arrangements, the urban population can not be kept free from the poison of communicable disease so long as supplied with infected milk from the rural districts. They concern the municipal health officer in particular, and from the point of view of epidemiology are important.

We possess evidence perfectly understood, gained by experience, bearing potentialities for evil which are unbounded in the dissemination of the virus of diphtheria, scarlet and typhoid fever. Numerous records of such epidemics are at hand in which the spread of infection was definitely traced to the dairy and its surroundings, contracted from the mouth, nose, throat, skin, and discharges of those in attendance, recently convalescent or scarcely recovered. Thus the materies morbi, which is very tenacious of life, clings to the hands and clothes of the careless, who in turn pollute the water and then cause it to be lodged in the cracks, crevices, seams, and inequalities of the walls, floors, and surfaces of the insanitary milk-house, storage box, cans, and bottles, there to thrive and multiply for the transmission to do infinite mischief and the slaughter of the innocent. Notable among these outbreaks we may mention the 95 described and tabulated by Hart of England, of which 48 were typhoid fever, 32 scarlet fever, and 15 diphtheria, and the 90 collected and tabulated by Freeman of this country, of which 53 were typhoid fever, 26 scarlet fever, and 11 diphtheria.

To confirm, as well as for the purpose of supplementing, these numerous instances of the spread of infection by an improper milk-supply, 5 outbreaks, parallel in relationship, of which 3 were typhoid fever and 2 scarlet fever, that occurred in the city of Buffalo since 1893, may be profitably cited. It was in the fall of this year that we encountered our first visitation of a contagious disease traceable to and rapidly extending through the instrumentality of a milk dealer's route. Here, likewise, the seeds of infection were brought to the persons unfortunate enough to come in contact with the contaminated milk from a remote center, and at the first opportunity these individuals infected others, and so the evil spread. It was occasionally observed that a group of scarlet-fever cases existed in such association that it was seemingly apparent, according to every reasonable expectation, that they all depended on a like source of infection. An investigation was at once instituted, which revealed the fact that 57 children of 26 separate and distinct families had succumbed to scarlet fever, all of whom had procured their milk from the same milkman, whose milk-house, equipments, health and family were all scrutinized with the result of finding two cases in his immediate household.

Inasmuch as nothing could be discovered of an insanitary or causative nature with his own outfit, environment, and mode of handling, the inquiry was further carried to the source of milk production—the dairy farm—with the sequence of detecting two cases of scarlet fever in the desquamating period, occurring in a child aged 7 and in a young man of 19 years. The latter, who still had large flakes of cuticle peeling from the extremities, must be credited with his share of the misfortune, for devastation followed the wake of his labor. He, before being thoroughly restored, ignorant of the danger caused by the stray particles of shed epidermis thickly peopled with the infective bacteria or their spores, did the milking, washed the cans and transported the commodity to the depot for shipment, to be received and distributed to the unsuspicious consumer by the city milk dealer.

Here, then, the first demonstrable milk epidemic of scarlet fever in our midst showed a typical case. The interesting and subjunctive corollary deduced from the research is convincing: 1. All the facts brought out by a persistent investigation of the epidemic pointed to the milk-supply. 2. The cases appeared almost simultaneously, extending rapidly and especially attacking those who partook freely of the lacteal fluid. 3. Only the homes located on a certain milk route were invaded and those frequently having the best hygienic environments. 4. Happily, the wane of the epidemic was equally abrupt following the discontinuance of the mischievous product.

Briefly, this is the unvarnished tale concerning our first recognized outbreak of scarlet fever caused by a contagious poison emanating from a doubtful milk-supply. However, it shed much light on the milk dealer's route as a channel for the dissemination of disease and served as a stimulus as well to yet more carefully scrutinize and guard the milk traffic. The most important practical result of this inquiry was the devising and maintaining of a register of contagious diseases in connection with their occurrence on these thoroughfares.

It is scarcely an exaggeration to say that the assigning of all acute infectious diseases that arise in a municipality to the milkman is an act consistent with the maintenance of health. It means a system feasible for daily surveillance and effective in the protection against frequent infection of the milk-consuming denizens. Such a register is worthy of more than a passing notice. It stands as a silent guardian, watchful of the integrity of milk, the health and happiness of the home. No department of health can be considered efficient, much less complete, without it. This armamentarium, when once adopted, will be the last to be dispensed with, for few things accomplish so much that are apparently so simple. Chemical analysis has a place, bacteriologic tests another, but the register takes the place of all in its importance and possibilities. We may fairly attribute to this innovation the detection of the four subsequent epidemics, in their incipiency. It made immediate investigation and the prevention of the further spread possible. We can not be too thankful for this result and we ought not to neglect its obvious lessons. In city milk routes much remains to be done in order to bring

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the sanitary conditions to a level with our knowledge. We can not plead ignorance: apathy and indifference are the foes most to be dreaded.

On Sept. 4, 1894, we were assured by the records of the register that nineteen cases of typhoid fever had developed with wonderful rapidity in families served by a milkman living in a sparsely settled section of the northern part of city. The Health Department forthwith instituted an investigation which showed the startling result that the wife of the milkman, surrounded by unfavorable conditions, was ill with the fever, however, on the borderland of recovery. She was still being nursed and cared for by the husband, who, likewise, was handling the milk and washing the cans in a most objectionable manner, with water procured from an old cistern that had, during the preceding year, been the subject of several sanitary complaints. Another powerful factor that made the transmission of the disease, through the medium of the milk, eminently capable, was the fact that the patient was not isolated but cooped up in a small stuffy chamber joining the kitchen, in direct communication with the milk-room. It is hardly necessary to state that the sale of milk was interdicted, the cistern ordered abandoned, disinfected and filled, and everything pertaining to the dairy and the premises in general placed in a sanitary condition. By this and other procedures, the spread of the disease was checked, no further case occurring on the route.

On Aug. 21, 1895, the Department again, through the intervention of the register, discovered eighteen cases of typhoid fever intimately associated with the milk route of a dairyman located on the outskirts of the city. An inquiry into the causes and circumstances of the outbreak revealed that his premises were not what they should be by reason of defective drainage and a badly constructed, ill-ventilated and unclean milk-house, conditions, as might be expected, most favorable for the reception and multiplication of the typhoid bacillus. The peculiar interest connected with these cases was that the wife of an employee had propagated the infection that had contaminated the milk through the agency of her husband, who, at night, not only acted as nurse but fulfilled all the other necessary household duties, and who, during the day, handled and delivered the needed product to the confiding consumers, without changing his clothing for days, or taking any precaution whatever. The sick wife was immediately removed to the hospital and the insanitary conditions so promptly changed that, by August 30, just nine days after the discovery of the first, no further cases were reported.

Again, on March 9, 1896, the register indicated the existence of fourteen patients affected with typhoid, on the route of a milkman residing in the western portion of the city. Here we acquired the information that the milk-room was in the rear of the first floor of the building which he occupied. Several months previous, a case of typhoid developed on the floor above, in a separate family, and ran its full course. These cases undoubtedly arose in consequence of the insanitary conditions prevalent in and about the building, and for like reason the contagion remained active until finding expression in the dairyman's route. A quick subsidence of the epidemic followed the suppression of the milk, thorough cleansing and disinfection.

On Feb. 27, 1899, in consequence of the rapid development of scarlet fever—some twenty cases within four days—an investigation was made and the source of the trouble traced to a dairy farm near Clarence, N. Y., twenty miles from the city, from where the milk-supply was received. It was ascertained that, at this place, four persons were infected with scarlet fever, one of whom, a convalescent, was, through ignorance of the danger and possibility of his acts, engaged in milking the cows, handling the cans and other utensils. Action was at once taken to prevent further injury through the milk, with the result of arresting the further development of cases by March 15, when but four cases were reported. No further cases were then reported until April 4, 1899, when we received reports of two additional, these being the last.

No better illustration could be found to demonstrate the condition liable to develop in any section in the present state of affairs, nor to demonstrate the value of this, the sanitary tell-tale or milk register.

In addition to the tell-tale register of infectious, contagious endemics indigenous to the dairy, it is unlawful to serve bottled milk to a household where contagious disease exists, or to remove from such a dwelling any bottle or receptacle which has been, or is to be, used for the purpose of receiving or storing milk, or to bottle or prepare for delivery any part of the milk-supply while on the delivery wagon or at any place other than the milk-house.

The recognition of the fact that every community has an interest in the health and well-being of its individual members, and that concerted action is necessary in order to obtain practical results, therefore, makes universal care and steady perseverance imperatively requisite to prevent the occurrence of epidemics.

Of late, the sphere of protection has been enormously enlarged, and there is much ground for hope that, by methods similar to those of the diagnostic register, which positively gives the cue for the early detection and suppression of contagious outbreaks current on the milk-dealer's highways, further immunity may be attained against disease propagated by impure milk.

In conclusion, the Department of Health in Buffalo has, from time to time, adopted, under my direction, a scrutiny, incomplete as it may be, briefly as follows: A record is kept of the conditions that prevail at each dairy supplying the city with milk. This information is obtained solely by inquiry, but has been found generally reliable. It includes data of the size, health, tuberculin examination of the herds, character of the water, food, health of employees, methods of milking, cooling, cleansing, transportation, in fact all factors bearing on the purity and protection of the milk. Additionally, circulars are caused to be sent, bearing on the possibilities and the like of the business. W ndi-
tions at the dairy appear prejudicial to the pu
from any cause, investigation is made and
requested. In the absence of authority beyond
cipal limits, when action for any cause appears
for insanitary reasons, for failure to comply
department's request, the product of such a d
interdicted at the city line, and the dealer to who
consigned, notified, until such time as the offe
removed.

With this mode of procedure and its results, any
can exercise a large influence on dairies supplyin
exclude milk from known tuberculous herds and o
sanitary protection beyond its own field of authori

DISCUSSION.

DR. A. WALTER SUITER, Herkimer, N. Y.—I regard the s
ject as quite exhausted by my friend, Dr. Wende. This in
esting effort in public sanitation, which he has so intelligently
disclosed, is a great innovation. Without doubt, when this
plan of registration is generally understood and practiced, it

will bring about material progress in the matter of the early discovery of epidemic outbreaks of infectious disease in cities and towns. It occurs to me that there is a great opportunity for more effective work along this line of sanitary administration; that often where careful precautions are taken in some respects, certain other precautions might be observed to make the service more complete and beneficial, and I was very much pleased to note in the Doctor's paper that he has not only required the registration of the source of supply and the route, but he also makes the point that all utensils, bottles and other materials that are used in the distribution of the milk shall also be registered, in order that the search for the origin of the outbreak may be made with the utmost accuracy. That is one of the most important recommendations of his paper, and is unquestionably one of the best points in the system he has inaugurated. Following this, the best means can be taken to prevent the dissemination of the infectious elements and the consequent continuation of the outbreaks.

DR. GROSSE—I would like to ask the Doctor about how much authority he has in controlling the milkman's premises outside the city precincts.

DR. H. Z. GILL, Topeka, Kan.—We had considerable to do with that question during the last year in our work on the tate Board of Health. In visiting the dairies within a radius of three, four or five miles of Topeka, and some inside the corporation, we found that there was a condition that was anything but desirable; and that the city authorities had taken no cognizance of the condition at all, and the only examination that was made of the milk was to find out the amount of cream that milk contained, which plan was utterly insufficient to demonstrate whether the milk was as it should be. After having ascertained the condition of these dairies, I made a somewhat lengthy report to the city council. That report was referred to the committee on hygiene, and together with the Board of Health of the city, we formulated an ordinance.

As to the control of the dairies outside of the city, the ordinance states that if the proprietors refuse to be inspected or investigated by the register or food inspector, their licenses shall be withheld. So we control them in that way, and we think we have the matter in such shape that we can compel inspection and thus control the conditions of the dairies within as many miles as we choose to go out and investigate them. But that work had to be started and carried on through the State Board of Health; otherwise it would not have been done. And all health officers must understand the importance of the conditions of the dairies that supply the cities with milk.

DR. E. WENDE, Buffalo, N. Y.—Not having the requisite authority to inspect and supervise the dairies that supply the consumers in Buffalo with milk, we have devised our own plans for preventing the sale of any suspicious article within the confines of the city, by a speedy and effectual disposition in interdicting it at the city line or at the depot. I regret that this action on the part of our municipality should be necessary, owing to the inadequate protection given us by the State Board of Health, which is largely advisory and not mandatory. I hope that, in the State of Ohio, the powers of the State Board of Health exceeds those of New York. This plan has operated exceedingly well with the Department in compelling the producer to submit to inspections by our municipal health officials, however, at times reluctantly.

DR. B. STANTON, Cincinnati, Ohio—The Ohio State Board of Health, unfortunately, has no jurisdiction as to matters of that kind, but here we have just the same power that they are exercising in Buffalo. The cities of this state, the towns, and incorporated villages have health boards, and they have control of the milk distribution, and in nearly all of the cities dairymen are required to register. Should they refuse the health authorities permission to inspect their dairies, or to regulate them as if they were in the corporate limits, all a board of health has to do is to refuse to grant a license to that dairy. It is a matter just as easily controlled in Ohio as in Buffalo. It is just as easy to control dairies outside the city, or outside of the county, or outside of the state, as it is to control these in the corporate limits, in this manner.

DR. E. WENDE—I think the importance of this registration can not be overestimated. The city and state now annually spend large sums of money for the analysis of milk. This expenditure would be more judicious were it applied to prevention rather than detection of merely a commercial fraud, which means only the protection of the pocket against a little water. My practice and aim has been the prevention of infection, the insuring of sanitary protection, and in this way disarming its bearing on contagious disease, and thus far I have succeeded in doing so most satisfactorily. The milk route registration and its relation to contagious disease is of far more avail to prevent infectious diseases than you have any idea of. It does more than all the bacteriologic and chemical examinations together, while it has the practical feature of costing almost nothing.

Another thing which I have observed in many cities, although not in Columbus, for I have not looked into the matter here, is that but very little supervision of the milk industry is given, and that not of the character nor amount that its importance deserves. In this respect, Buffalo is in advance, and we are very proud of the purity of the milk-supply and the way it is maintained. All that has been accomplished has been done in the past six or eight years. Up to that time we had cow barns in the city, in connection with milk dairies, which are now removed. This was only accomplished after a fight and opposition, as you can imagine. Under our system, no man can go into the milk business now unless he gets a permit from the Department of Health, and a license from the mayor. This license is not issued until the rules of the Department of Health are complied with, and the conditions what they should be. Formerly we found milk-houses in all sorts of bad sanitation; some even located over sewers, with their milk-cooling boxes plumbed without any trap, vent or proper plumbing safeguards, or the milk boxes themselves placed near an old privy vault or near a stable, and what not. Now, on the contrary, there is a uniformity of requirement; milk boxes have to be lined with metal; raised off the ground; and not placed against the wall; and have to be properly trapped and vented, etc. The milk-house itself has to be in a separate building without connection with a stable or any influencing building. These are some of the features that have been corrected, and one of the ways in which we have diminished the danger to Buffalo from infectious disease.

One feature of excellence which we have introduced is that whenever an infectious disease occurs in the city, the dealer supplying the family is ascertained and the case charged up against his particular milk route. This is done whether he is guilty of causing it or not. The physicians report all cases of contagious disease immediately, by telephone, and not by postal card three or four days later, as was formerly the case here, and is yet customary in many cities. A note is immediately made of this reported case, and an inspector is sent to the place; one of his first and most important duties is to ask, and ascertain and report on, "Who is your milkman?" With that report we keep our register and the case is charged as stated, against that particular milkman.

In case of an outbreak of contagious disease, if there is anything wrong with the milk, the spread of the disease occurs along that route with peculiarly wonderful rapidity. Ten or eleven cases may be reported in one day, an equal number the next, and so on. By our method, however, the source of the trouble can be traced and located with almost equal rapidity and positiveness. The milk is then interdicted, and the epidemic, so far as that route is concerned, at once stops.

DR. A. R. REYNOLDS, Chicago—You say there are no cow barns in Buffalo. Does that mean that there are no single cows kept?

DR. E. WENDE—I mean cow barns connected with milk houses; we have an ordinance that a man can keep but one cow in the city of Buffalo on one lot. If he keeps two cows he has to have an additional acre for every cow. In that way we practically exclude cow barns from the city; and even a private individual has to get a permit for the keeping of that cow; and he has to pay the city $1 for that permit.

DR. C. O. PROBST, Columbus Ohio—I would like to ask the Doctor whether they get any information of contagious disease in the dairyman's family.

DR. E. WENDE—No, not by the register.

DR. C. O. PROBST—But in some other way?

DR. E. WENDE—Yes, after we have finished our investigation, in the city and find nothing wrong, we turn our attention to the country, carefully investigating every source of supply, including the dairyman's premises, family and help. If the cause be located, we prohibit the milk from that dairy from entering the city until all danger is over or the evil remedied.

TYPHOID FEVER IN A LEPER, FOLLOWING IMMEDIATELY BUT ACCIDENTALLY ON TREATMENT WITH ANTIVENOMOUS SERUM.*

BY J. F. SCHAMBERG, M.D.
PHILADELPHIA.

The following report is deemed worthy of presentation because of several unique features connected therewith. Whilst there is no reason why lepers should not, if exposed, contract typhoid fever, there seems to be, as far as I have been able to ascertain, no recorded instance of the simultaneous existence of these diseases. Furthermore, several eminent leprologists, to whom an inquiry as to the incidence of typhoid fever among lepers was addressed, have replied that they have never noted its occurrence. A letter received from Dr. G. Armauer Hansen, Bergen, Norway, says: "Since 1868 we have not had typhoid fever here, and consequently I am unable to give you any information on this question. I have seen an epidemic of measles and this malady run the same course amongst the lepers as among others."

The fever in the present case developed after the use of injections of antivenomous serum. In 1897, Dr. Dyer of New Orleans, La., read, before the International Leprosy Congress at Berlin, a preliminary report on the use of antivenene in leprosy. In this he stated that he had employed injections of Calmette's serum in five cases of leprosy, in four of which marked improvement had taken place. In one there was practically a disappearance of the lesions present, and of other evidences of the disease. In one the result was negative. In this case the "age and frailty of the patient were to be considered."

Through the courtesy of my friend, Dr. William M. Welch, chief of the Municipal Hospital for Infectious Diseases, Philadelphia, I was permitted to employ this treatment on a leper there resident. The history of the patient is as follows: M. P., aged 25, a sailor, and a native of Oesel, a Russian island in the Baltic Sea, has mixed leprosy of nine years' standing. The face, particularly the forehead, is studded with twenty-five or more pinhead to cherry sized bronze-colored nodules. The region of the eyebrows is bereft of hair. The ears are somewhat thickened, although no distinct nodules are present. The face is reddened as a result of the presence of numerous fine telangiectases. The conjunctivæ are permanently injected. The gums behind the incisor teeth are superficially ulcerated, and a circumscribed area much resembling a mucus patch is situated on the right soft palate. The patient has been subject to swelling of the legs for over four years. In the beginning the hair was lost from the legs, which then became harsh and dry. Burning was noticed in 1890, eight years ago. Upon the thighs, legs and feet are extensive areas of anesthesia. Lepra bacilli were found in an excised nodule from the forehead.

On January 17, the treatment with antivenomous serum was instituted, the serum being graciously furnished by the Pasteur Institute of Lille, France; 1 c.c. was injected into the buttock, and the only reaction was a slight chill which occurred in the evening. On January 19, 1 c.c. was again injected, and on the 21st, 2 c.c. followed by slight chills several hours later. On the 23d, 3 c.c. injected gave no elevation of temperature nor other reaction. January 26, 4 c.c. was injected, and severe chills occurred during the evening. Two days later the temperature rose to 101.8 F., accompanied by loss of appetite and malaise, and there appeared over the lumbar vertebræ a boggy swelling which was distinctly painful and tender. The temperature and swelling both subsided in the course of a few days, and treatment was resumed.

February 2, 4 c.c. was injected into the right, and February 5, 4.5 c.c. into the left buttock. The latter injection was given at noon, and at 8 p. m. there was a slight chill followed by a rise of temperature to 100.8 F. On the 7th, 5 c.c. was injected into the right buttock at noon, and at 8 p. m. chills occurred, followed by rise of temperature to 101.6 F., and accompanied by anorexia and considerable depression, which lasted several days. At noon of February 9, the pulse was 128 and the temperature 100.6 F. On February 12, the quantity of the injection, owing to the depressing reaction, was reduced to 2.5 c.c. Several hours later there was elevation of temperature and great depression, and on the 14th the temperature rose to 104.2 F. In addition there were headache, complete anorexia, depression and intense restlessness. On February 16, the temperature was 103.4 F., with no abatement of the general symptoms.

At this time the suspicion arose that the fever might

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be due to some oncoming disease, and, owing to the great prevalence of typhoid fever in the city, and its development in a few cases at the hospital, this affection was suspected. At this period the patient presented the following symptoms: The countenance was dull and the general expression indicative of profound prostration; the tongue was tremulous, dry and coated, with reddened edges. The pulse was moderately frequent and distinctly dicrotic. The abdomen was slightly full; some gurgling could be heard over the right iliac fossa; there was no tenderness and the bowels were constipated. Two indefinite but suspicious spots were present on the abdomen and loin. The patient had had nose-bleed, but this could easily have resulted from the nasal ulceration from which he was suffering. Indeed, on inquiry, he stated that he had been subject to nose-bleed. The spleen was apparently enlarged. Several days later, on the ninth day of the disease, there occurred numerous rose-colored spots over the abdomen and back, followed two days later by a profuse crop of typical typhoid efflorescences. The bowels remained rather costive throughout the course of the disease. The temperature for the first fortnight fluctuated between 102 and 104 degrees, gradually subsiding to normal on the twenty-third day. The pulse varied from 80 to 100. The Widal reaction, tested on the tenth day, was positive.

The development of the typhoid fever immediately after the use of the antivenomous serum must be regarded as a purely accidental, though interesting, circumstance. The injections were given with an antitoxin syringe, which was boiled each time before use. Antiseptic precautions in regard to the needle and the skin of the region injected were rigorously carried out. No inflammatory nodulation was ever manifest at the sites of puncture.

The patient convalesced rapidly and made an excellent recovery. The original disease remained entirely unaffected. The nine serum injections did not in the least influence the leprous manifestations. Whilst the result obtained is no fair criterion of what might have been accomplished if the treatment had been continued, yet the writer is constrained to believe that no better result would have been achieved. Dyer obtained visible amelioration after the first few injections, and by the ninth, marked improvement had already taken place.

The patient, disaffected by the restraint of liberty incident to confinement in an infectious hospital, made his escape from the institution. This precluded all possibility of a further trial of the remedy.

DISCUSSION.

DR. J. F. SCHAMBERG, Philadelphia.—I may add that antivenomous serum is made by injecting the virus, presumably of the cobra, into horses, the serum of the animal being subsequently withdrawn. The reason that this remedy has been employed in leprosy is not purely an accidental one. Dr. Dyer quotes the belief of the lay people of countries where leprosy is endemic, that leprous patients who are bitten by snakes are apt to recover. In fact, a Brazilian voluntarily submitted to the bite of a rattlesnake in order that he might be cured of the leprosy from which he was suffering; the bite proved fatal. As far as I am able to learn from the literature of the subject the present case is the first one reported in which typhoid fever has occurred in a leper.

DR. R. R. CAMPBELL, Chicago.—I would like to ask Dr. Schamberg whether he made the Widal test after diagnosis had been made; whether the serum treatment had any effect on the typhoid, and whether it was continued after the diagnosis of typhoid had been made?

DR. DOUGLASS W. MONTGOMERY, San Francisco, Cal.—I have never seen a leper with typhoid fever, and do not remember to have ever read the report of a case, and therefore do not know how the disease would react on one another. Of the general fevers, smallpox is said to have an especially bad effect on tubercular leprosy. A short time ago, however, a young girl suffering from tubercular leprosy and residing in the San Francisco pest-house was attacked with smallpox with no immediate bad effects as far as the leprosy was concerned. As regards the diagnosis, although the case reported seems undoubtedly one of tubercular leprosy, yet I did not note any mention of the demonstration of lepra bacilli. These bacilli are usually present in great numbers and are easily demonstrable in tubercular leprosy.

DR. J. F. SCHAMBERG—I will answer the queries of Dr. Campbell. The Widal reaction was made on the ninth day of the disease and was positive. The use of the serum was not continued after the suspicion of typhoid fever arose. Lepra bacilli were found in a nodule excised from the forehead, and in the accompanying photograph you will see the scar which remains from the excision.

Therapeutics.

Uses of the Stomach-Tube.

The increasing popularity of the stomach-tube is such at the present time that it is no longer the property of the specialist, but it is used throughout the medical world. Its indiscriminate use is irrational, and it is contraindicated in: 1. Heart disease, especially where there is defective compensation. 2. Myocarditis. 3. Angina pectoris. 4. Fatty heart, especially the advanced stages. 5. Aneurysm. 6. Recent hemorrhages, such as pulmonary, gastric, vesical, apoplectic, renal, rectal hemorrhage, etc. 7. Pulmonary tuberculosis. 8. Cerebral hyperemia. 9. Advanced cachexia. 10. In the continuous fevers, typhoid, remittent, etc. 11. Where there has been a recent hematemesis. 12. Ulcer of stomach. 13. Carcinoma of the pylorus, especially where there has been vomiting of "coffee grounds." 14. In all cases where there is a tendency for the gastric mucosa to bleed easily. 15. In those cases where the gastric affection is secondary to some more important primary disease.

The method of using an ordinary stomach-tube is very simple. The first and most important procedure is to secure the confidence of the patient; explain carefully the whole operation. Avoid the use of oils or greasy lubricants. Seat the patient in a straight-backed chair, having him lean his head slightly forward—most patients throw their heads backward. Wet the tube with warm water, place it back on the tongue, and tell him to swallow; the tube will readily enter the esophagus, when it can be rapidly passed into the stomach. Time may be saved with patients with tender fauces, especially those who smoke a great deal, by spraying the throat with a mild solution of cocain, 2 to 4 per cent., but this procedure will seldom be needed. After the tube has entered the stomach, avoid moving the tube, as this brings on nausea and vomiting. Have the patient breathe deep and regularly and attract his attention to something else by conversation.

Simple lavage with plain water, continued until it comes away clear, is preferable to the use of solutions. Medicamentation is better effected by the spraying apparatus of Einhorn.

—H. H. Roberts: *Am. Pract. and News.*

Infusion of Salt Solution with Inhalations of Oxygen in Pneumonia.

Noticing that salt solution often acted as a powerful respiratory stimulant in surgical cases, C. A. Penrose *(Johns Hopkins Hosp. Bull.)* was led to try it in three extreme cases of pneumonia. 1000 to 2000 c.c. normal salt solution (0.6 per cent.) were injected at a time. Whenever the pulmonic second heart sound becomes "murmurish" it is an indication that enough fluid has been injected. Regarding the use of the salt solution, the author draws the following conclusions:

1. It dilutes the toxins in the blood and promotes their elimination through the sweat glands and kidneys.

2. It relieves the delirium, lowers the temperature, stimulates the heart, lowers the respiratory rate and makes breathing easier.

3. It renders the patient more susceptible to the influence of oxygen.

The inhalations of oxygen are given at intervals, whenever lips or finger-tips become bluish, and are continued until the color becomes normal, usually 10 to 15 minutes. He advises passing oxygen through a wash-bottle containing a pint of hot water to which has been added:

℞. Tinct. benzoin co.....gtt. xl
Ol. terebinthinæ
Creosoti, āā.....m. x

The gas is administered through an ordinary glass funnel held about two inches from the face.

Treatment of Whooping-Cough.

There seems scarcely room for doubt that whooping-cough is an infectious disease, but, although several micro-organisms have been described by different investigators as the exciting agents, there is no agreement as to any one of these being the specific cause. When this shall have been discovered we may reasonably next hope for the discovery of the antitoxin, inasmuch as the disease is a self-limited one and a single attack is usually protective against subsequent infection; so that it must be conceived that antitoxins are naturally generated in the process of recovery. In the absence, however, of a specific or antidotal therapy, we are still restricted to symptomatic or physiologic remedies. So far as one can judge, empirically or clinically, the best of these are the sedatives, the bromids and bromoform, including also antipyrin, although inhalations and belladonna and quinin, also are sometimes helpful. One of the most recent candidates for favor in the treatment of whooping-cough is an organic combination of fluorin, known commercially as antitussin, and a report of the results from its employment in 16 cases is given by Helm in a recent number of the *Berliner Klinische Wochenschrift* (No. 50, Dec. 11, 1899, p. 1102). The preparation used consists in an ointment made of 5 parts of diflourdiphenyl, 10 parts of vaselin, and 85 parts of chemically pure wool-fat. This is readily absorbed when rubbed into the skin, preferably of the neck, chest and back, after these parts have been washed with warm soapsuds and dried thoroughly, with vigorous friction. A mass the size of a walnut is used, being evenly distributed, and vigorously rubbed in until it has all disappeared. Of the 16 cases treated, 7 were in the catarrhal, and 9 in the convulsive stage. In the former the course of the disease was virtually aborted, and in the latter the symptoms were greatly ameliorated. The remedy appeared to exert a pronounced antispasmodic effect, preventing the paroxysms of cough, the dyspnea, the cyanosis, and the threatened suffocation. Not only the severity of the attacks, but their frequency, also, was diminished, and the duration of the disease was distinctly lessened. In the next place the remedy proved an active expectorant. Finally, in the amounts used, it was entirely nontoxic. The preparation proved useful, further, in the treatment of catarrhal disorders of the larynx, trachea and bronchi.

Bromoform in Whooping-Cough.

Feer gives the parent 10 gm. of bromoform in a colored bottle with the directions to give the child three times a day as many drops as he is years old, plus two. Five years old=5+2, that is, seven drops three times a day for four days, and then four times a day. If no improvement is noted in a week add one drop, and by the end of another week add another drop. Older children should not take over 50 drops during the day, and adults not over 70 drops to 80. It should be taken after meals in water, milk or the yolk of an egg, from a spoon. Parents should be warned not to leave the bottle in reach of the children. Feer has observed a case (*Semaine Méd.*, Dec. 13, 1899), in which a child 3 years of age took 4 gm. at once (120 drops), but the coma and cyanosis induced by the intoxication soon passed away, showing the slight toxic properties of the bromoform.

Milk from Dethyroidized Goats in Basedow's Disease.

Injections of blood serum from dogs deprived of their thyroid glands have been used in the treatment of Basedow's disease, on the assumption that this affection is due to thyroid hypersecretion which might be neutralized by the toxic substances accumulating in dethyroidized animals. O. Lanz reports very favorable results from ingestion of all the milk secreted by goats whose thyroid glands had been removed, half a pint to a pint a day. The pulse was retarded, the goiter, tremor and cephalalgia were diminished, while sleep and appetite were improved by the end of a few weeks in the two cases thus treated. Another patient has been taking the milk for only eight days, but the exophthalmia and cephalalgia are already improved.

Welander's Mercurial Treatment for Syphilitic Infants.

Seibert stated, before the German Congress of Physicians and Naturalists, that he had tested the pillow-slip method of treatment on twenty-one infants, and he warmly recommends it as simple, reliable when a mild treatment is required, no demands on the attendants and no danger from careless handling of powerful drugs, while in the case of infants the warmth in bed promotes the evaporation of the mercury. Children also have a larger surface, in proportion, than adults, to benefit by the evaporation. Seibert modifies Welander's directions by having the pharmacist rub Hg. cum creta, 40 to 60, on the fleecy side of the cloth, which is then folded once and the mother instructed to sew up the three open sides. The bag is changed every four to six days.

Causes and Treatment of Pernicious Anemia.

Grawitz, in the *Rev. de Therap.*, says that one of the chief difficulties in the way of the successful treatment of pernicious anemia is the improper nourishment of the patient on account of his anorexia. It is necessary to wash out the stomach and bowel and to give saline laxatives to correct this.

If the urine contains an increased amount of indican it is a sign that the intestines contain putrefactive material, and internal antiseptics, such as calomel and salol, should be given. To correct the hyperacidity of the stomach, bitters should be prescribed, or the wine of condurango, wine of pepsin or porter. It is indispensable that the physician have an oversight of the fluids taken by the patient. Iron is useless. Arsenic is the only drug which has a direct beneficial action. Massage, exercise, and appropriate gymnastics may be of some benefit. Infusion is only indicated in women who have lost a great deal of blood in induced labor.

Ulcerative Stomatitis.

Kissel advises, in the *Progrès Médical*, to rinse the child's mouth every hour with a 3 per cent. boric acid solution and rub twice daily the entire buccal cavity, and particularly the gums and ulcerated parts of the mucous lining of the cheeks, with a plug of cotton wet with the same solution. Cod-liver oil is prescribed, and before commencing treatment, unsound teeth should be extracted. Under this treatment ulcerations are said to disappear in from six to ten days. In private practice, when such minute attention is not possible, the author, after extracting the teeth, as before, curettes the ulcerations to the bottom, then with a finger enveloped in gauze he rubs iodoform powder into the ulcerated surfaces. The buccal cavity is cleansed twice daily with a tampon of cotton wet with boric acid solution, and the mouth is rinsed hourly with the same solution.

Use and Abuse of Internal Remedies in Treatment of Cutaneous Diseases.

A. Kuhner claims that the dermatologists neglect internal medication while the practitioner abuses it and depreciates the value of local treatment. He calls attention to the efficacy of arsenic (*Aerztl. Rundschau*, 1899) in lichen ruber, psoriasis and other dry desquamating affections; antimony for acute cutaneous diseases, especially in the form of vinum stibium, which has a favorable influence on the arterial pressure. Phosphorus is effective in nervous cutaneous affections (pemphigus, eczema neurot., etc.), and potassium iodid in large doses has been found extremely beneficial in psoriasis by Haslund.

Strontium Bromid in Epilepsy.

Laborde stated, at the meeting of the Paris Acad. de Méd., December 5, that strontium bromid resembles potassium and sodium bromid in its action, but is much more powerful, while no symptoms of intoxication follow its use such as are observed with potassium bromid. Four grams can be given from the start, and the dose of eight to ten grams a day progressively reached without inconvenience. He has an experience of several cases of epilepsy completely arrested for years by the use of strontium bromid.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, January 4.

1.—*What Position Shall Universities Take with Regard to Investigation? Thomas Dwight.
2.—*Epistaxis. Frederick C. Cobb.
3.—*Appendicitis in a Hernial Sac. Benjamin Tenney.
4.—*Nitrate of Silver in Hydrochlorhydria. M. P. Smithwick.
5.—*Simple Method for the Quantitative Analysis of the Gastric Contents for Use in Clinical Work. Henry F. Hewes.
6.— Three Unusual Cases of Angioneurotic Edema in Infancy. John Lovett Morse.

New York Medical Journal, January 6.

7.—*Injuries of the Kidney and Traumatic (Parenchymatous) Nephritis with Clinical Report of an Illustrative Case Accompanied by Hematoidinuria and Albumosuria, Terminating in Complete Recovery. Thomas J. Yarrow.
8.—*On a Grave Possible Error in Skiagraphy. Carl Beck.
9.—*Monstrum per Defectum. Alfred Moore.
10.— Report of a Few Cases of Chronic Empyema of the Antrum of Highmore; Operation by the Caldwell-Luc Method. A. W. DeRoaldes.
11.—*Therapeutic Application of Carbonic Acid Gas. A. Rose.
12.—*Sudan III Stain for the Tubercle Bacillus. D. Murray Cowie.
13.—*Limitations and Value of Fluoroscopic Examinations. Charles Lester Leonard.
14.—*Hemorrhoids: The General Practitioner and Ubiquitous Charlatan. A Plea for the Systematic Examination of Rectal Patients by the Family Physician. J. William J. Doyle.

Philadelphia Medical Journal, January 6.

15.—*Foreign Body, Chisel, Imbedded in the Nasopharynx and Posterior Pharyngeal Wall. Gary B. Gamble, Jr., and L. M. Tiffany.
16.—*X-Ray Examinations in Diseases of the Chest. Francis H. Williams.
17.— 1. A Bullet in the Popliteal Space. 2. A Case of Dilated Esophagus. Two Cases Showing the Value of the X-Rays and at the Same Time That in the First Case They Were Misleading. W. W. Keen.
18.—*The Skiameter. A. W. Crane.
19.— X-Ray in Military Surgery. N. Senn.
20.—*X-Ray Demonstration of Some of the Effects of Shoes and Stockings on the Human Foot. H. Augustus Wilson.
21.—*Practical Points in Use of X-Rays. Louis A. Weigel.
22.— Practical Use of Radiograph and Fluoroscope in Diseases of the Lungs. T. Mellor Tyson and William S. Newcomet.
23.—*X-Ray Diagnosis of Nephrolithiasis—A Résumé of Its Development and Value. Charles Lester Leonard.
24.—*White Gangrene. George G. Hopkins.
25.—*X-Ray as a Diagnostic Agent in Pulmonary Diseases. J. Edward Stubbert.
26.— Technique of X-Ray Work. Arthur W. Goodspeed.
27.—*Treatment of Lupus by X-Rays. Philip Mills Jones.
28.— Two Cases of Simultaneous Fracture of Patellas, Treated by Wiring the Fragments. J. S. Wight.
29.— X-Rays in Study of Heart Reflex. Albert Abrams.
30.—*Use of X-Ray in Orthopedic Surgery. Robert W. Lovett.

Medical News (N. Y.), January 6.

31.—*Principles of Treatment of Fractures by Systematic Movements and Massage without Apparatus for Immobilization. Lucas Championniere.
32.—*Some of the Causes of Failure to Relieve Asthenopia and Allied Symptoms. F. W. Marlow.
33.—*Aseptic Catheterism. Carl Beck.
34.— Series of Cases of Pistol Shot Wounds in the Head. Charles Phelps.
35.— Case of Polydactylism. A. L. Benedict.

Medical Record (N. Y.), January 6.

36.—*The Diet in Typhoid Fever. Morris Manges.
37.—*Two Cases of Tumor Pressing on the Cauda Equina; Removal; Recovery. B. Sachs.
38.—*Puerperal Insanity. William Hirsch.

Medical Review (St. Louis, Mo.), January 6.

39.—*Relation of Mental Disease and Residence in an Asylum or Sanitarium to Life Expectancy. Harold N. Moyer.
40.— Case of Impetigo Contagiosa Bullosa Simulating Pemphigus Vulgaris. Albert Fuller.
41.— Amputation Stump. H. D. Fairbrother.

Cincinnati Lancet-Clinic, January 6.

42.—*The Tonsillar Ring. Derrick T. Vail.

North Carolina Medical Journal (Charlotte), Dec. 20, 1899.

43.— Croupous Pneumonia in Children. J. Howell Way.
44.— Acute Tonsillitis. Edwin Gladmon.
45.— Acute Pneumonia in Children. W. L. Harris.

Northwestern Lancet (St. Paul, Minn.), Dec. 15, 1899.

46.— Extra-Uterine Pregnancy. John T. Rogers.
47.— Obstetric Emergencies. W. S. Fullerton.
48.— Croupous Pneumonia. A. A. Finch.
49.— Obstruction of a Deviated Rectum due to the Encroachment of the Right Utero-Sacral Ligament. John H. Rishmiller.

Columbus Medical Journal, Dec. 5, 1899.

50.—*Report of a Case of Pseudo-Diphtheria. Frank L. Stillman.
51.—*Intestinal Obstruction, Operation and Recovery, with Report of Cases. Sherman Leach.

American Practitioner and News (Louisville, Ky.), Dec. 1, 1899.

52.— The Doctor's Pay. John G. Cecil.
53.—*Methylene Blue as a Local Application in Diseases of the Mucous Membrane: with Report of Three Cases. Charles Moir.

Clinical Review (Chicago), January.

54.— Acute and Chronic Myelitis. Henry M. Lyman.
55.— Clinical Lectures on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
56.— Notes on the Liver and Its Diseases. George Dock.
57.— Dermoid Cyst of Ovary Complicating Labor. Henry F. Lewis.
58.— Lecture on Gunshot Wounds. Chas. B. Nancrede.
59.— Clinical Lectures on Obstetrics and Gynecology: Albuminuria and Eclampsia. Denslow Lewis.

Medical Standard (Chicago), January.

60.—*Pulmonary Anemia: An Early Symptom of Phthisis. Albert Abrams.
61.— Urethral Bougies, Catheters and Sounds. A. P. Heinecke.
62.— Chronic Nasal Discharge. Paul I. Dombrowski.
63.— Preparations of Iron in Therapeutics. Anton Ewald.
64.— Intestinal Antiseptics. J. F. Purviance.

Louisville Monthly Journal of Medicine and Surgery, January.

65.—*Study of Sixty-one Cases of Appendicitis, Thirty of Whom Were Operated On. Frank T. Meriwether.
66.—*Arm Saved After Being Run Over and Crushed by a Locomotive. S. L. Kilmer.
67.—*Some Phases of Malaria: Quinin In. William Britt Burns.
68.— The Young Physician's Reception. Wilbur F. Sterman.
69.— Aneurysm: With Report of Case. J. Brent Palmer.
70.— Leucoma Adherens, a Sequel to Gonorrheal Ophthalmia, Followed by Two Acute Attacks of Glaucoma. Adolph O. Pflingst.

Medical Review of Reviews (N. Y.), Dec. 25, 1899.

71.—*Cholangiostomie: Two Cases Recovering. B. Merrill Ricketts.

Medical Herald (St. Joseph, Mo.), December, 1899.

72.— Diabetes and its Constitutional Treatment. Elmore S. Pottyjohn.
73.— Human and Bovine Tuberculosis and its Relation to State Medicine. R. E. Graham.
74.— Symptoms and Diagnosis of Carcinoma Uteri. H. J. Boldt.
75.— Blood and Quinin in Malaria. L. H. Warner.
76.— Pernicious Intermittent Fever Treated with Hypo-Quindol (Gardner). C. O. Buck.
77.— Clinical Experience with Thialion. L. Lofton.
78.— Surgical Suggestions. W. J. Bell.

Canadian Journal of Medicine and Surgery (Toronto), January.

79.— History of Medicine. Ezra H. B. Stafford.
80.— Treatment of Acute Digestive Disorders of Infancy. Andrew R. Gordon.
81.— Anesthesia by Chloroform and Ether. William B. Jones.
82.—*Cases of Puerperal Sepsis Treated with Antistreptococcic Serum, with Notes. George T. McKeough.
83.—*Hospital Room in Each Dwelling. W. J. Telfer.

Dominion Medical Monthly (Toronto), December, 1899.

84.— Therapeutics of Conversion, or the Vis Medicatrix Spiritus Sancti as a Cure for Erotic Neurasthenia, with a Remarkable Case.
85.—*Distribution of Anthrax in Ontario. W. T. Connell.

Southern California Practitioner (Los Angeles), December, 1899.

86.— Plea for Early Radical Treatment of Appendicitis. O. O. Witherbee.
87.— Some Causes of Failure in Prescribing Digitalin: Dosage. W. T. Bolton.
88.— Case of Ptomain Poisoning. W. M. Lewis.
89.— Parrott's Disease, Report of a Case. C. G. Stivers.

Brooklyn Medical Journal, January.

90.—*Achylia Gastrica with Report of Two Cases. H. W. Lincoln.
91.—*Salpingitis. Frederick J. Scoop.
92.—*Remarks on Gangrene of Lower Extremities: With a Plea for Early Operative Procedure. William Maddren.

New Orleans Medical and Surgical Journal, January.

93.— Review of the Bacteriology of Gonorrhea. O. L. Pothier.
94.— Report of Cases of Spinal Injury Treated at the Charity Hospital, New Orleans, During 1899. E. D. Fenner.
95.— Report of a Case of Bradycardia. T. S. Dabney.
96.— Interesting Case of Stenosis of the Trachea. Good Results from an Operation for Exophthalmic Goiter. W. W. Keen.
97.— Treatment of Cases of Psychic Impotence. Orville Horwitz.

Obstetrics (N. Y.), December, 1899.

98.—*Atresia Vaginæ Complicating Labor. George G. Ward, Jr.
99.—*Ovarian Cyst Complicating Labor. H. D. Peterson.
100.— Report of Case of Dermoid Cyst of Ovary Complicating Labor. Henry F. Lewis.
101.— Dystocia Due to the Fetus. Thomas S. Bullock.
102.— Physical Diagnosis in Obstetrics. (*Continued.*) E. A. Ayers.

Toledo Medical and Surgical Reporter, January.

103.— Psoriasis. J. C. Reinhart.
104.— Locomotor Ataxia. W. W. Brand.
105.— Locomotor Ataxia. C. W. Newton.
106.— Pathologic Anatomy of Locomotor Ataxia. J. H. Jacobson.
107.— Pulmonary Tuberculosis Treated with Hypodermic Injections of Bromin-Iodin Compound, with Clinical Reports. Paul Plummer.

St. Louis Medical and Surgical Journal, January.

108.— Quosque Tandem, Catalina, Abuteris Patientia Nostra? Albert S. Ashmead.
109.— Contribution to Therapeutics of Pepto-Mangan, "Gude." Ludwig Paul.

Journal of Cutaneous and Genito-Urinary Diseases, (N. Y.), January.

110.—*Case of Blastomycetic Dermatitis Engrafted on Syphilitic Ulcers. Henry G. Anthony and Maximillian Herzog.

111.—*Case of Macular Lepride of Scalp, with Remarks on Localization of Leprous Lesions. Prince A. Morrow.
112.—*Etiology and Rational Treatment of Urethral Arthritis and Allied Affections. A. MacKenzie Forbes.
113 — Urethroscope in Treatment of Strictures. Henry Koch.
114.— Unusual Complication of Subacute Gonorrhea. J. Henry Dowd.

Colorado Medical Journal (Denver), December, 1899.

115.— Report of Case of Intubation of Larynx in an Adult. F. E. Waxham.
116.—*Two Complicated Cases of Appendicitis. S. D. Van Meter.
117.— Dental Jurisprudence. F. F. Graves.
118.—*Report of Case of Hydrophobia. Edwin R. Axtell.
119.— Genito-Urinary Memoranda. Wm. P. Munn.

Archives of Ophthalmology (N. Y.), November, 1899.

120.—*Spontaneous and Post-Operative Detachment of Retina in Myopic Eyes. Conrad Fröhlich.
121.—*Case of Papillo-Retinitis Due to Chlorosis. W. Schmidt.
122.— Contributions to Embryology of Lens. C. Ritter.
123.— Binocular Vision after Extraction of Senile Cataract of One Eye. Edgar S. Thomson.
124.—*Buphthalmus with Lenticonus Posterior. Ed. Pergens.

Richmond Journal of Practice, December, 1899.

125.— Practical Experience in Asepsis and Antisepsis in Obstetrics. Douglas Ayres.

Merck's Archives (N. Y.), December, 1899.

126.— Use of Remedies in Asthma. J. H. Jackson.
127.— Aspidosperma Quebracho in Therapeutics. Virginius W. Gayle.
128.— Diagnosis and Treatment of Uremia. Augustus A. Eshner.
129.— Gaduol in Chronic Bronchopulmonary Catarrh. Joseph M. Patton.

Medical and Surgical Monitor (Indianapolis, Ind.), Dec. 15, 1899.

130.—*Care of the Recent Case of Insanity. C. B. Burr.
131.— Notes of European Travel. A. J. Banker.

AMERICAN.

1. **Universities and Original Investigation.**—Dwight believes it is not the duty of universities to urge, much less to force, original investigation on students. It should be on hand for those whose zeal is so great that it will take no denial. He would not give more prizes, but of scholarships for deserving men we can hardly have too many. As to the encouragement and support of investigation in its faculty, it is the primary object of the professor to teach, but there are cases where it is necessary for his reputation and influence, to do some original work, and the university should assist, especially in the financial needs of this. The best plan would be to place a sum in the hands of the professor at the head of each scientific department, to be spent for the good of that department, including publications. If the individual lacks discretion in the use of this fund, a check to the system would naturally follow.

2. **Epistaxis.**—The causes of bleeding, according to Cobb, may be either local or general. The local causes are more apt to be ulcerations of the blood-vessels, resulting from scabs and crusts on the septum. These may be caused by irritation, as in deflected septum, by foreign bodies—although this is rare—by new growths, and especially by operations for sarcomata. The general causes are plethora and anemia, the hemorrhagic diathesis, acute febrile diseases, vicarious menstruation and disease of the kidneys, syphilis, phthisis and alcohol. It seems to the author that the occurrence of severe bleeding should lead to an examination of the kidneys as a cause. As regards treatment, he recommends cauterization of the bleeding point on the septum with chromic acid, or galvanocautery after cocainization, suprarenal extract to be tried, watching for a possible renewal of the hemorrhage from vascular reaction. Plugging, when resorted to, should be done by strips of gauze introduced along the floor of the nose by means of long forceps, the Eustachian prominence not to be occluded. Packing should be left in twenty-four to forty-eight hours, and removed with the utmost care.

3. **Appendicitis in a Hernial Sac.**—Tenney reports a case of appendicitis due to hernia of the inflamed appendix, which was removed. He discusses the condition generally, which is unusual, though hardly to be called rare.

4. **Nitrate of Silver in Hyperchlorhydria.**—Smithwick reports three cases of treatment of hyperchlorhydria with nitrate of silver, ¼ gr. in ½ ounce of water, poured through a stomach-tube after lavage. While his experience is limited, he thinks it worthy of a thorough trial. We should remember the possibility of argyria and occasionally omit it.

5. **Quantitative Analysis of Gastric Contents.**—Hewes publishes a new method of quantitative analysis, which he claims is more simple than the one he published some two years ago.

1. *Total free HCl.*—For this measure off 5 c.c. of contents after shaking, and add Töpfer's reagent. If free hydrochloric acid is present, the mixture will assume a carmine red color. This will occur, as a rule, with one drop, though three or four may be required. To this add a decinormal solution of sodic hydrate by titration, until the red color changes to orange or bright yellow. The number of cubic centimeters of the soda solution required are read off and multiplied by .00365 grains. The amount of free hydrochloric acid in the 5 c.c. of contents is thus obtained and the percentage may be reckoned. In order to make this test more exact, he supplements it with a tropeolin test, adding a drop of a saturated solution of 00 tropeolin to a drop of the mixture in a warm dish. As long as such a mixture gives a purple color on evaporation, the free HCl is not yet neutralized.

2. *Total free acids plus free acid salts.*—To the same 5 c.c of contents already used, continue to add the decinormal soda solution until a drop of the mixture fails to color Congo red paper, and by taking a record of the soda used up to this point, the quantitative estimate of the total free acids plus acid salts in the contents can be obtained in the same manner as the estimation of the total free HCl. If in performing this Congo test the reaction point is passed, the paper is turned a brighter red than its original color. It is easy, therefore, to control the accuracy of the test.

3. *Total acidity.*—Using the same 5 c.c. mixture, 2 drops of a 1 per cent alcoholic solution of phenolphthalein is added. Continue to add the soda solution until a deep red color of a maximum intensity is obtained. This indicates the presence of an alkaline reaction or the neutralization of all the acid elements. From the record of the soda solution used to accomplish this result we estimate the total acidity. Care must be taken to develop the deepest red color which can be obtained. This analysis gives us a qualitative test for free hydrochloric acid, and a quantitative estimation of the total free hydrochloric acid, the total free acids plus acid salts, and the total acidity. By subtracting the total free HCl from the total free acids plus salts, we obtain a quantitative estimate of the total organic acids plus acid salts. By subtracting the total free acid salts from the total acidity, we obtain the total combined acids—the total combined HCl in cases where free HCl is present. By adding this total combined HCl to the total free HCl we obtain the secreted hydrochloric acid. In cases in which free hydrochloric acid is present to the Töpfer test, this test includes, with the exception of the qualitative test for lactic acid, all the tests that are necessary in ordinary clinical work. Where the Töpfer test is absent or doubtful, the qualitative test for free HCl must be tried with 00 tropeolin. Boas' resorcin reagent and phloroglucin vanillin. Where a trace is discovered by one of these tests which could not be determined by the Töpfer test, the amount present is recorded as a trace, it being too small to admit of a definite quantitative determination. When no free hydrochloric acid is present by any qualitative test, the contents are first tested by Congo red paper. A positive test shows the presence of free acids—organic acids—or of acid salts of both. Five c.c. of contents is then estimated with the soda solution, against Congo red and phenolphthalein in turn, and the free acid plus acid salts and the total acidity determined. If no free acid plus acid salts is present, the contents is first tested with blue litmus. If the test is positive, the presence of combined acids of some kind, either mineral or organic, is proven. Five c.c. of the contents is then estimated against phenolphthalein, to determine the total acidity. In cases in which no free HCl is present, and the contents is still acid, it is of much importance to determine whether or not the combined acid present or a part of it is combined hydrochloric acid, for by this determination we ascertain whether or not any hydrochloric acid is secreted; that is, whether the acid-secreting cells of the stomach suffer from a total loss of function or a simple diminution of this function below normal. This fact may be ascertained in a simple manner by subjecting the contents to the qualitative test for chlorin, except that present in the form of inorganic chlorids, known as the Ewald-Sjoqvist test.

Test for combined hydrochloric acid in the absence of free hydrochloric acid.—Ten c.c. of the contents is mixed with a pinch—half a saltspoonful—of barium carbonate. This mix-

ture is evaporated and the residue fused to a red heat in a platinum crucible—fused to a red heat only. The fused mixture is treated with boiling water. The mixture is filtered. The filtrate and wash-water together should amount to about 30 c.c. To this filtrate cooled, from 5 to 10 c.c. of a saturated solution of sodium carbonate is added. If chlorin in the form of organic chlorin compounds—acid albumins, peptones—is present in the original mixture, a white precipitate will form in this filtrate. When this barium carbonate test is positive, then we know that some of our combined acid is combined hydrochloric acid, and that the disturbance of the secretion of acid present is due to a diminution rather than a total loss of function of the secreting cells. This is a fact of considerable importance in our knowledge of the case. This Ewald-Sjoqvist test is very simple. It occupies about half an hour. It necessitates for apparatus a platinum crucible and a Bunsen lamp. The necessary reagents are: 1, barium carbonate C.P.; 2, saturated aqueous solution of sodium carbonate. All methods of quantitative estimation of the total combined hydrochloric acid in the absence of free hydrochloric acid, which are of sufficient accuracy to be of use, are too difficult of application for use in ordinary clinical work. Hewes employed the above method as a routine practice in all cases of gastric affections in his outpatients. for two years, and he thinks the results have paid for the trouble.

7. **Injuries to the Kidneys.**—Yarrow reports a case in a child who was run over by a coal cart and had the symptoms of contusion or laceration of the kidney with acute nephritis, but in whom the symptoms followed a very favorable course, the recovery being complete in about forty days after the accident. One of the most interesting features of the case was the occurrrence of hematoidinuria, which continued until after the blood clot had been absorbed in the contused kidney. He thinks that in this condition the hemoglobin is changed to hematin and methemoglobin, and finally subjected to further oxidation by contact with the tissues, and converted into hematoidin. The acute traumatic nephritis in the case would probably have lasted less than a month except for an aggravation due to influenza at its close.

8. **Errors in Skiagraphy.**—Beck calls attention to the possibility of errors in accepting skiagraphs of a bone fracture, and illustrates by a case showing how the first view in the anteroposterior direction alone failed to reveal an oblique fracture of the tibia satisfactorily. The case shows the importance of taking at least two skiagraphs in different positions in all cases of suspected fracture.

9.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1419.

11. **Therapeutic Application of Carbonic Acid Gas.**—This article gives a general review of the effects of carbonic acid gas in pathologic conditions, with a history of its employment in this way. The author shows that it causes hyperemia of the nasal membranes, and that it has its value in rheumatism and neuralgia in balneologic treatment. His paper is to be continued.

12. **The Sudan III Stain.**—Cowie shows the unreliability of this stain, as now manufactured and sold, for the differentiation of the tubercle bacillus, and thinks that the original stain used by Dorset appears to be now unattainable. He hopes it will be found, and if it proves, as it appears it might, to be a selective stain for the tubercle bacillus, its value in clinical medicine will be beyond calculation.

13. **Limitations of the Fluoroscope.**—The value of the fluoroscope is that it aids and confirms the mental pictures obtained by the diagnostician by other methods, but it does not replace them. It is impossible to always determine the difference shown in this manner on normal tissues under different conditions, and unless we know the normal, it is impossible to determine the pathologic. This is especially true of the lungs, which vary in their showing according to their expansion and other circumstances. The apices, for instance, of persons of sedentary habits, expand imperfectly in normal breathing, and thus might lead to a diagnosis of incipient phthisis. Absolute accuracy by this method seems to be impossible. Its value is less than that of the skiagraph, which records its work, and instantaneous skiagrams, which may be made in future, will possibly afford one of the greatest advances in X-ray work.

14. **Hemorrhoids.**—Doyle calls attention to the carelessness of accepting a patient's testimony as to his rectal condition, and illustrates it by cases which he says might be multiplied indefinitely. There is really nothing difficult about making rectal examinations, though they are sometimes objected to. He gives his method in detail. After becoming satisfied as to the condition of the external parts, the vast majority of diseases within the rectum can be detected by the educated finger, the speculum being rarely required. When entering, the finger will give a definite idea of the condition of the external sphincters, and once the finger is inside, we readily detect any abnormal condition, such as stricture, internal piles, polypi, old ulcers with indurated bases, and sometimes the opening of internal fistulæ. In males we learn the condition of the prostate gland, and in the female, the size, shape and position of the uterus, ovaries, etc. For ordinary examinations, where the speculum is required, Cook's or Matthew's instruments are satisfactory, while for the deeper parts, Kelly's tubes are admirable, but require more skill in their introduction. The soft silver probe is sometimes useful, but is really rarely required, as in demonstrating an internal fistula or opening. The rectal bougie is a dangerous instrument, even in the hands of an expert. In connection with the history inquire as to: 1, pain, its character, situation and relation to the act of defecation—whether worse before, during, immediately after, or some time after evacuation; 2, itching; 3, a sense of fulness, heat and burning; 4, swelling and protrusion at anal opening—its relation to defecation, whether or not it becomes reduced spontaneously; 5, bleeding; 6, discharge—if any, its nature, whether mucous, bloody, purulent, or offensive—its relation to defecation or its occurrence independently of that process; 7, the character of the evacuation as to color, size, consistence and regularity; 8, the family history regarding malignant disease and generally investigate the *personnel* of the patient. Such examination will place us in a position to form at least a fairly accurate diagnosis and enable us to keep the patient within the circle of an educated profession, and the rectal charlatan, whose sole object is to grasp the pursestrings of the sufferer, will be compelled to devote his attention to other pursuits.

15. See abstract in THE JOURNAL of Nov. 4, 1899, p. 1181.

16. **X-Ray Examinations in Thoracic Diseases.**—The paper of Williams is an elaborate one, going into details as to the relative advantages of the X-ray as compared with the other methods of diagnosis of heart and lung diseases, aneurysms, neoplasms, etc. He does not advocate giving up any other methods for making diagnosis in thoracic diseases—we need all the aids we can have—but strongly urges the addition to them of careful X-ray examinations, and emphasizes the value of this method as a means of indicating early certain abnormal conditions in the chest. We have two methods of examining the heart and lungs—auscultation and percussion. Each of these in suitable cases gives valuable information; they require a trained ear and experience with many patients to make them serviceable. In some cases the former is of the greater value, in others percussion; more frequently they are best when used together. To these we may now add a third method, which also requires special training, that of X-ray examinations. There are diseases in which each of the three methods may render the chief service, and each may in other cases be of little value. Usually, they should be used together; each supplements the other.

18. **The Skiameter.**—This instrument is described and its use indicated. It consists of a screen on which are fastened strips of tinfoil of from one to ten layers, with intervals between. These have also two holes of different sizes cut in them. The tinfoil bar of only one layer is the unit of shadow measure; if its shadow is undistinguishable, while that of the next is seen, we have a chest shadow of one degree. This explains its main utility, but it also serves for topographic mensuration.

20. **Foot Deformities.**—Wilson demonstrates by the X-rays the effects of foot coverings on the feet.

21. **Practical Points in X-Ray Work.**—Weigel prefers a static machine for the work, uses mechanical rests, objects to too close tubes, even with short exposures, thinks photographs preferable to the fluoroscope, and makes various suggestions as to developing, printing, etc. He believes more attention

should be given to this part of the work. The fluoroscope has only a limited usefulness, and is, he suggests, perhaps responsible for some of the charges of unreliability, etc. of X-ray revelations. His paper concludes with illustrative cases.

23. **X-Ray Diagnosis of Nephrolithiasis.**—The diagnosis of kidney calculi requires a "soft" Crookes' tube, or one with a low vacuum, and also one that is self-regulating. The vacuum required is shown, by experience, to equal in resistance one or two inches of spark in air. The length of exposure depends on the individual and is also dependent on the amount of energy developed in the secondary circuit, since this influences the volume of the Roentgen discharge. High wattage and not high voltage is the necessary element in the current employed to energize a tube for differentiation in soft structures *en masse.* He gives reports of thirty-six cases.

24. **White Gangrene.**—According to Hopkins, the X-ray burn is due to destruction of the nerve-supply of the part by the rays. It is more common when alternating currents are used, and he has found but four cases on record when the static current was employed, and then only when the exposure has been unduly long. If improper apparatus, too long exposure and too close approach to the tube are avoided, and the static machine used, there need be no fear of injury.

25. **X-Ray in Lung Diseases.**—Stubbert reviews the methods of pulmonary examinations with the fluoroscope, and describes the appearances. A great deal depends on the intensity and steadiness of light and the amount of muscular and adipose tissue intervening between it and the fluoroscope.

27. **Cure of Lupus by X-Rays.**—Jones reports two cases of lupus of the face cured by the X-rays.

30. **X-Ray in Orthopedic Surgery.**—Lovett's paper illustrates the uses of the rays in orthopedic surgery. Twenty-nine skiagrams are given, showing their value in the diagnosis of existing conditions.

31. **Treatment of Fractures Without Immobilization.**—Lucas-Championnière advocates the treatment of fractures without the use of immobilization apparatus, and maintains that by this method at least one-fifth of all fractures can be treated. It consists in passive movements of the joints, and general massage of the limb, both of which prevent stiffening of articulations, muscles and tendons, and especially favor repair. The massage should never give pain, and should always be followed by an attempt at passive movement of the joints of the limb, which procedure must also be accomplished without pain. There is only one contraindication to this method, and that is a threatening deformity, and this only should prevent the surgeon from using this method. In 598 patients with serious lesions thus treated, 370 suffered from fractures which he gives in classified form. He thinks it gives more rapid and satisfactory results than any other plan of treatment employed at the present time. It requires, however, more attention and personal care than does the use of apparatus which may be left undisturbed for days or weeks.

32. **Asthenopia.**—The cases of asthenopia which fail to be relieved by the ophthalmologist are discussed by Marlow, who divides them into curable and incurable, and gives illustrations of each form. The curable cases may fail from the fault of the patient or that of the oculist, or there may be extreme latency of some of the errors of refraction and equilibrium that are overlooked or very difficult to correct. The incurable cases include congenital asthenopes whose eyes are incapable of a normal amount of work, independently of their refraction and muscular condition, and of the general health, and second, those in which the symptoms are due to organic disease of the brain or to some general disease.

33. **Aseptic Catheterism.**—The chief point in Beck's paper is the necessity of very thorough cleanliness, extreme delicacy and much patience in catheterization and he shows how difficult it is to make the urethra aseptic; even the normal passage contains numerous pathogenic germs. He advises a prophylactic injection of a 5 per cent. emulsion of iodoform in glycerin before the introduction of the instrument. In this case, if an abrasion is caused, the iodoform will come in contact with the wound at the very first, and destroy the germs or arrest their growth. The trusting of a catheter to the patient himself is unscientific and should be done only under the most pressing circumstances. Soft catheters should be chosen, and the fact that their usefulness is soon destroyed by repeated boiling should not have much weight in the matter.

36. **Diet in Typhoid.**—Manges pleads for a more liberal diet in typhoid, and points out that the dangers are decidedly less than they have been commonly supposed. Typhoid fever is a general toxemia, and it is this rather than any particular lesions to which we must direct our attention, and regulate the diet, and the general nutrition should be kept up at the highest point possible. The dangers of hemorrhage as far as the limited number of cases quoted permits judgment, is not increased, nor does he believe that the dangers of perforation are any greater with a soft than a liquid diet. Our present directions are too stereotyped, usually being that the patient should be fed on milk. Manges thinks that if proper disinfection of the stools, urine, etc., were attended to, and we studied the diagnosis of typhoid fever more instead of prescribing useless drugs, the benefit to the world would be very marked. He does not lay down the rule that every patient should be placed on this less restricted diet, nor that every article may be allowed, but simply pleads for a more liberal feeding, which he thinks the experience of competent observers has taught us is safe.

37. **Tumors Pressing on the Cauda Equina.**—Sachs reports two cases of tumors pressing on the cauda equina in the lower spinal canal, both of them operated on with success, and the chances of recovery greatly improved. It is possible that in one case at least there may be some malignant residua left, and that there is a serious danger of relapse. The localization of spinal growths is now so well fixed that the question is not where, but what is the lesion, and do the symptoms warrant the diagnosis of tumor and make operation advisable. Sachs believes that whenever there is a strong suspicion of extraspinal neoplasm, and a possibility of reaching the site, an exploratory operation should be made as early as possible. If properly done it is perfectly harmless.

38. **Puerperal Insanity.**—Hirsch ends his paper as follows: 1. A specific form of mental disease, which might be called puerperal insanity, does not exist. The different psychoses which are observed during one of the stages of gestation are the same as those we see in other patients. 2. Pregnancy may, under certain circumstances, be one of the etiologic factors of insanity. Its etiologic importance, however, is proven by neither statistics nor clinical observation. It is, therefore, not permissible to terminate pregnancy on account of a psychosis, unless there are special indications for such intervention. 3. During parturition we sometimes meet a transitory disturbance of consciousness, the clinical features of which resemble psychic epilepsy. 4. Psychoses which occur in connection with the act of parturition are produced: *a*, by trauma in cases of difficult labor; *b*, by anemia and exhaustion after severe hemorrhage; *c*, by intoxication in septic cases or local inflammation, or uremia. The clinical symptoms of this group of psychoses consist of an acute delirium, which either leads to recovery after a short time or passes into a secondary psychosis. All these cases may be produced by the same causes in the non-pregnant state. The clinical features have nothing special in any way. 5. Lactation, as such, plays no rôle in the production of insanity. It is due to other circumstances that, during the first few months after delivery, women, on the average, are more predisposed to nervous and mental diseases than under ordinary conditions.

39.—See abstract in THE JOURNAL of Dec. 30, 1899, p. 1655.

42.—Ibid., Dec. 2, 1899, p. 1423.

50. **Pseudo-Diphtheria.**—Stillman reports a case of apparent diphtheritic growth in which the most careful examination of the membrane was negative as regards the Klebs-Loeffler bacillus, and showed a pure streptococcic invasion. The duration of the disease was three weeks.

51. **Intestinal Obstruction.**—In regard to this subject, Leach says, after due trial with various remedies, calomel, oil, salines, also rectal enemata of various kinds, if we fail to get the bowels open, we should not delay operation. Peritonitis should be prevented by operation at once, without waiting for its symptoms. He reports cases illustrating his views.

53. **Methylene Blue.**—Moir reports three cases in which he used methylene blue as a local application to the mucous mem-

brane in purulent diseases of the tonsils and nasal passage, with the best results. In one of the cases he also employed it internally, in 2-grain doses three times a day. He believes its pus-destroying effects are equal to if not superior to those of any other drug.

60. **Pulmonary Anemia, an Early Symptom of Phthisis.**—Abrams, in a former communication, called attention to the presence over the thorax of apparently normal individuals of constant areas of diminished percussion resonance, varying from dulness to flatness. These vary in number and situation in the individual, but generally admit of definite localization. He has called these atelectatic zones. They can be dispelled by repeated forced inspiration, but will return with ordinary breathing, and in children more than in adults are associated with anemia. These zones bear an almost definite relation to the points of election and the paths of distribution of the lesions in chronic pulmonary tuberculosis. Since the advent of the Roentgen rays, he has confirmed these views, but finds that voluntary forced breathing alone is not always sufficient to dispel these areas, and he now subjects such patients to breathing exercises with compressed air, before submitting them to the skiascopic examination. The indications for treatment are to increase the power of the lungs and increase its development by proper gymnastics.

65.—This paper, here printed as original, has appeared elsewhere; see abstract in THE JOURNAL of Dec. 9, 1899, p. 1479, ¶ 24.

66.—Ibid., Oct. 28, 1899, p. 1090, ¶ 63.

67.—See abstract in THE JOURNAL of Oct. 21, 1899, p. 1042.

71.—Ibid., Nov. 11, 1899, p. 1229.

82. **Puerperal Sepsis Treated by Antistreptococcic Serum.**—McKeough reports a case of puerperal sepsis treated by the injection of 10 c.c. doses of antistreptococcic serum, and mentions others that have come to his knowledge similarly treated. While the evidence in regard to this method of treatment is conflicting, he is inclined to think that the good results in his case were due to it.

83. **Hospital Room in Dwellings.**—Telfer here recommends that in house construction a special room be taken for cases of sickness, not to be utilized for this alone, but to be so built and furnished that it can, in case of need, be made a proper hospital apartment and isolated and disinfected as such. The ceilings, walls, and floors should be finished so that they can be thoroughly washed, its furniture such as can be rendered aseptic. Special bath and closet arrangements should be provided, and a stairway that can be exclusively used. The advantages of such a room are pointed out.

85.—See abstract in THE JOURNAL of Dec. 9, 1899, p. 1505.

90. **Achylia Gastrica.**—Two cases are reported, with a general discussion of the subject. The condition is considered to be a disease, not a symptom, and while it may exist without any symptoms whatever, the patient being in apparent health, there are generally symptoms of dyspepsia, constipation, etc., and sometimes obstinate diarrhea with nausea and vomiting. The treatment consists in keeping up body nutrition and stimulating the gastric muscles. Five or six small meals are preferable to three ordinary ones, and milk given according to the views of L. D. Bulkley works admirably. For local stimulation, lavage and intragastric electrization stand pre-eminent. Either or both may be continued for a long time, according to the case. Many require no medicinal treatment. Dilute hydrochloric acid, some good iron preparation, fluid extract of condurango, tincture of nux vomica, Fowler's solution, etc., are used as indicated. Pineapple juice is a good substitute for hydrochloric acid.

91. **Salpingitis.**—Shoop thinks the majority of cases of salpingitis are due to a streptococcic invasion, the gonococcus not being so great a factor as was formerly supposed.

92. **Gangrene.**—The various forms of gangrene and their causes are mentioned by Maddren, who believes that it is the wisest and best procedure to have the patients submit to amputation at the most favorable point in the first stages of the malady, while their recuperative powers are at their best and their systems are less charged with toxic matter.

93. **Atresia Vaginae Complicating Labor.**—Ward summarizes his study of this subject in the following: 1. In the great majority of cases Nature is competent to overcome the obstructions by the softening and relaxing of the tissues incident to the later months of gestation, and by the dilatation produced by the presenting part. 2. No hard and fast rules can be laid down for such cases, as the treatment must depend on the character of the obstruction. 3. Labor is very apt to be induced by efforts at dilatation, and unless premature delivery is intended, such efforts had better be deferred until near term, or until labor sets in, especially as the condition of the tissues is more favorable for dilatation at that time. 4. Hydrostatic and careful manual dilatation, coupled with shallow radiating incisions or nicks, if necessary, may be used with advantage to aid or take the place of dilatation by the presenting part. 5. Dilatation of the atresia should be as nearly complete as possible before the forceps are applied. 6. Care should be observed in the after-treatment of these cases, to maintain the patency of the vagina by irrigations, and the daily passage of suitable dilators. 7. In those cases in which the obstruction is unyielding or cartilaginous in character, or is complicated by the presence of a vesicovaginal fistula if, after a fair trial, it is seen that further delay is dangerous to both mother and child, Cesarian section should be resorted to, in preference to embryotomy and craniotomy. 8. In cases where the labor can not be terminated per vaginam, and in which the atresia is complete, so that the proper drainage of the lochia from the uterus is interfered with, a Porro operation should be performed in preference to a Cesarian section.

99.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1425.

110. **Blastomycetic Dermatitis.**—The case reported by Anthony and Herzog is one of blastomycetic dermatitis superposed on gummata. No other micro-organisms but blastomycetes were seen in the tissue.

111. **Leprosy.**—Morrow reports a case of the rare occurrence of macular leprosy on the scalp, in a sailor, 47 years of age. The patient had had syphilis and epilepsy prior to this affection. This case is also reported by him in his memoir on leprosy in "Twentieth Century Practice." Vol. xviii.

112. **Urethral Arthritis.**—The motive of Forbes' paper is to show that gonorrheal arthritis is due to the migration of the gonococcus, as is shown by experimental evidence, and by the fact that they have been found so rarely in other than the acute stages and that the gonococci do not tend to flourish in the joint, hence the rational treatment is to cut off the source of supply in the urethra: in other words, we must cure the urethritis to cure the arthritis. He reports an analysis of forty-three cases, which he thinks, in a general way, support his views; he gives a more detailed account of one case in particular.

116.—See abstract in THE JOURNAL of May 27, 1899, p. 1179.

118. **Hydrophobia.**—The case reported by Axtell is that of a boy 8 years old, who was bitten by a dog about three weeks before the beginning of the symptoms. The wound had healed up kindly. The case is of interest as giving symptoms of hydrophobia, or dread of water, in a child too young to be affected by the history of the disease and his imagination. The stage of excitement lasted two days. There was no paralytic stage, the spasms were not painful, the mental state was clear, and the abject terror or fear of water was typical. He asks: if the case was not one of hydrophobia, what was the cause of death?

120. **Detachment of Retina.**—The frequency of any evidence of spontaneous and post-operative detachment of the retina in myopic eyes is discussed by Fröhlich, who finds that the accident is much more frequent after operation than in cases unoperated on, and that adding the loss of sight from this cause and that from infection after operation, the total amounts to 5.5 per cent. He says all the new departures in surgery cause a sacrifice. Still, the course may be proper, and improved technic may later bring down the percentage of losses.

121. **Papillo-Retinitis and Chlorosis.**—Schmidt reports a case of double papillo-retinitis in a girl of 14, due to a chlorotic condition, as shown by the blood examination. The patient recovered under treatment, and the case is in many respects similar to that reported by Dieballa.

124. **Lenticonus Posterior.**—Pergens here reports a case of buphthalmus with pronounced keratoglobus, in a boy 4½ years old. The eyeball was enucleated and examined microscopically,

and found to be a case of lenticonus posterior, being the first case thus examined in man. There was a pyramidal cataract anteriorly. The other eye was normal. He gives a résumé of the cases in literature in which this condition has been diagnosed in man.

130. **Treatment of Insanity.**—Burr discusses, quite elaborately, the treatment of recent cases of insanity, and strongly advocates the rest-in-bed treatment, with the other methods found useful in these cases. Among the special methods he mentions are the "salt glow" or rubbing, followed by a cold bath. He thinks it is unadvisable to recommend change of scene and travel for neurasthenic and depressed patients.

FOREIGN.

British Medical Journal, Dec. 30, 1899.

Harveian Lectures on Treatment of Tuberculous Diseases. W. WATSON CHEYNE.—The third lecture by Cheyne, which is appearing in the British journals, is devoted to the subject of genito-urinary tuberculosis. In the male the epididymis seems to be the most frequently affected. After noticing the symptoms, he considers the methods of treatment, and after describing the operations of castration and epididymectomy, he rather favors the latter, considering it worthy of more consideration than it has yet received. When it alone can be used, he would prefer it to castration. Tuberculosis of the prostate requires surgical treatment only when there is breaking down and formation of pus, and in these cases it should be carried out early. Tuberculosis of the bladder may be treated either surgically or medically; in neither case can we insure a cure. Operations, however, are likely to give relief, if not absolute cure of the disease. The kidney is the most common seat of tuberculosis in genito-urinary disease, and may be affected either primarily or secondarily. After the diagnosis is made, which is of the utmost importance, as to which kidney is affected, and the extent and implication of other organs, the surgical procedures are nephrotomy and nephrectomy, total or partial. The former is only a temporary expedient and must generally be looked upon as a preliminary operation. Nephrectomy, to be justified, requires that the disease must be unilateral, and Cheyne doubts the reliability of ureteral catheterization in the diagnosis of these cases. The best procedure, in spite of its disadvantages, is, he believes, to cut down on the kidney supposed to be diseased, and ascertain the condition. In all cases where the kidney is removed, more or less of the ureter will also have to be taken. Of late years some good results have been reported from partial nephrectomy, though in many the subsequent removal of the remainder has been required. On the whole, however, the best results are obtained by nephrectomy, if the other kidney is healthy.

Essential Toxic Symptoms of Diphtheria. JOHN BIERNACKI.—The author suggests that the toxic symptoms of diphtheria are due to a rapid fall of blood-pressure caused by the diphtheria toxin, and he publishes a chart and reports a case which he thinks supports this view.

Lancet, Dec. 30, 1899.

Measures Taken at Tor and Suez Against Ships Coming from the Red Sea and the Far East. MARC ARMAND RUFFER.—The quarantine methods at the northern end of the Red Sea are described, also the conditions of the Mecca pilgrimage. According to Ruffer, the sanitary condition of the steamers carrying pilgrims to and from Jeddah are of the worst possible character, the Austrian boats alone being a marked exception. The quarantine station at Tor, at the foot of the Sinai range, appears to be on the whole as good as could be expected, and he considers the arrangements efficient against plague, but not against cholera. There are also serious defects as regards disinfection of the clothing of the passengers and crews of infected vessels, and the Venice convention regulations are very far from being as efficient and satisfactory as they should be. At present there is nothing to prevent vessels from carrying passengers in the incubation period of plague and cholera, through the Suez Canal into Europe, and the ultimate measures must be taken at European ports. In his opinion, in ship disinfection it is better to do a little well and thoroughly than a great deal badly. The great danger is the patient, the things in his immediate neighborhood and his soiled clothing, and it is comparatively easy to deal with him, but when attempts are made to enforce more general measures, and entail pecuniary loss, the door is open to every form of fraud, bribery, concealment and corruption.

Clinical Record (London), Dec. 20, 1899.

Combined Degenerations of Spinal Cord. RISIEN RUSSELL.—The disorders of the spinal cord here considered include certain species already recognized, but which the author considers as not clearly pathologically proven, such as ataxic paraplegia and lateral spinal sclerosis, and another form which he has recognized as existing, whether these others really exist or not. The disorder has not yet been assigned its proper place in the classification, its subjects having been considered as suffering from various conditions, such as myelitis, tabes, disseminated sclerosis, etc. Its etiology is obscure. Its pathology, as the name "combined degenerations" implies, is the disorder of various spinal tracts, and in some regions nearly the whole of the white matter except that which abuts immediately on the gray. Where the change is less extensive, the most marked damage is to the dorsal and lateral regions, while an area which varies in extent in the ventrolateral region escapes. The damage to the posterior column diminishes toward the caudal extremity, while that of the pyramidal tract diminishes toward the medulla. The greatest area affected is in the thoracic region. Tracts which are supposed to have their trophic centers in the gray matter of the column are more or less preserved. Microscopically, the conditions are, in their most pronounced state, a dense sclerosis, practically no nerve elements being left. He rejects the idea that the condition originates in anemia, though we do not find any very satisfactory explanation. The one that seems most satisfactory to him is the action of a toxin. The disease generally begins with weakness in the lower extremities, often with early sensory symptoms, such as numbness and tingling. A girdle sensation is frequent, and some patients complain of a persistent pain in the region of the liver. Shooting pains are sometimes felt in the legs. Some sphincter disturbance, especially of the bladder, is common and not long delayed. The first symptoms rarely appear in the upper extremities. When patients are under observation, the disease is generally advanced, but wasting is not usually apparent, though it occurs later. The faradic muscular reaction is diminished, while the galvanic is retained. The paraplegia is either spastic or the limbs are flaccid, though in the latter case there may be certain spastic phenomena. Flaccidity may be a sequel to the earlier spastic condition. The trunk muscles sooner or later become involved, and ataxia of the upper extremities is sometimes present, with loss of muscular sense, though the disease is more manifest in the lower extremities. Analgesia and anesthesia are there present. The knee-jerks are usually exaggerated, and ankle-clonus is commonly present. The plantar reflex, that is the extension of the toes instead of the flexion, as is normally the case, is a valuable sign, especially in cases where the reflexes are absent, as it distinguishes this form of paraplegia from that due to peripheral nerve affections. Trophic disorders are common, sacral bed sores, anasarca, etc. Toward the close of the disorder mental changes are noticed, most marked at night, when there may be delirium. The cranial nerves are seldom affected, except in the general asthenia in the advanced stage. The anemia is sometimes so marked that some cases may possibly be considered as pernicious anemia. In others it appears to play no part. The disease runs a rapid course, the average duration being ten months. The case longest under observation was one year and three months, the shortest three months. In every case in which this disease has been recognized clinically, in the hospital, by Dr. Russell, death has resulted.

Caledonian Medical Journal, January.

Notes on Condition of Cortical Nerve-Cells in Three Cases of Imbecility. J. MIDDLEMASS.—The author briefly reports three cases, two epileptics, another an imbecile not suffering from epilepsy, in which the nerve-cells of the second layer of the cortex, and in two the third layer also, were in the condition called by Bevan Lewis, "developmental arrest." If these cases are confirmed by other observations, he thinks they should prove of considerable importance as explaining the pathology of imbecility to be a fetal condition of these nerve-cells. One of

his cases would seem to indicate that epilepsy is not a constant accompaniment of this condition of arrest, as has been held by Lewis.

Bulletin Medical de Quebec, December, 1899.

Cardiopathy and Marriage. A. SIMARD.—The published statistics, the writer states, show that the mortality of heart disease aggravated by pregnancy and its consequences, is 13 to 61 per cent. Porak reports 88 out of 214 pregnant women with heart disease, prematurely delivered. The fetus is usually dead and is occasionally poorly developed when born at term. Two observations of mitral lesions much aggravated by pregnancy have led Simard to accept von Leyden's dictum that the physician should in general advise against the marriage of young women with valvular lesions. It is evident that pregnancy is liable to greatly aggravate an existing heart disease; also that pregnancies under these circumstances are frequently interrupted, which is another danger for the patient, and the puerperal state may prove fatal. But it must not be forgotten that numbers of women with heart lesions pass through pregnancies without apparent injury. In another of Simard's observations a young woman with aortic insufficiency came through her pregnancy unscathed. Jaccoud and Vinay assert that if the subject has never suffered from her heart affection and the lesions are compensated, there is no reason to forbid marriage, merely advising "maternity in moderation." Simard would acquaint the subject with the possible dangers, and if accidents have already appeared, positively forbid marriage.

Bulletin Medical (Paris), Dec. 20, 1899.

Renal Lithiasis in Children. COMBY.—In this communication Comby states that he has noted evidences of renal lithiasis in 100 out of 600 necropsies of infants, in the last two years, but not a single case of biliary lithiasis. Uric infarcts have even been noted in stillborn infants. The renal lithiasis is not hereditary, but acquired from improper or insufficient food. Most of the children were atrophied, dehydrated and with infections favoring acidity and concentration of the urine and precipitation of urates. In 48 examined more closely, 31 were boys and 17 girls; 28 were under 6 months old; 18 between 6 and 12 months and 2 between 1 and 2 years. Diarrhea was noted in 29; vomiting in 24; athrepsia in 14; various eruptions in 28 and rapid decrease in weight in 25. Symptoms are obscure on account of the age; nephritic colics are rarely recognized. Convulsions, dysuria, screaming, restlessness can sometimes be connected with the renal lithiasis. If the children survive their athrepsia, the calculi may persist and lodge in the urinary passages. The lithiasis of the youth and the adult may date from the earliest infancy. Prophylaxis consists in appropriate food and drink; in case of fever, copious enemata of water, or injections of artificial serum if there is gastric intolerance. A course at some watering-place is advisable in case of confirmed lithiasis.

Ventral Position in Treatment of Vesicovaginal Fistula. VITRAC.—The frequent failure of treatment in these cases is due to the incessant contact of the wound with urine. If this can be prevented, the wound heals rapidly, and this can be accomplished by accustoming the patient to lie in the ventral decubitus. This position and a permanent sound may alone effect a cure, and should be imperative after every operation, with possibly compression of the posterior wall of the bladder after suture of the fistula.

Presse Medicale (Paris), Dec. 20, 1899.

Search for Projectiles in the Skull with Radiography and the Contremoulin Apparatus. T. TUFFIER.—Remarkable results were attained with this apparatus in three recent cases in which the results of radiography and operation contraindicated the clinical manifestations. The apparatus is not very complicated. It fits over the head, and two radiographs are taken. The apparatus is then removed and a pair of long sliding needles inserted, which meet at right angles exactly at the point where the projectile is located. After anæsthesia the apparatus is replaced on the head and the needles guide the surgeon to the spot.

Severe Polyuria and Its Relation to Lesions of the Pancreas. C. MONGOUR and GENTES.—"Beside the benign polyuria with still undetermined lesions, there is a severe polyuria commencing abruptly or consecutive to the former, the nature of which is still unknown. The evolution deceptively simulates the evolution of pancreatic diabetes, and we believe that it is connected with a lesion of the pancreas." This pancreatic lesion, neoplasia or fibrous degeneration is perhaps hypertrophic, respecting the acini comparatively. In all the observations the pancreas was hypertrophied. It is possible that the destruction of the cells is less complete than in the atrophic sclerosis encountered in diabetes. The lesion more resembles the results of experimental incomplete ablation of the pancreas or ligature of the pancreatic duct, which was followed by simple polyuria. In one observation, described in detail, a young man was suddenly affected with extreme weakness and vertigo, in the midst of his work, subsiding again in a few weeks but reappearing by the end of the year, during which polydipsia had been frequent, with rapid decoloration of the integuments, complete asthenia, no appetite, intense thirst, polyuria of five to six liters a day, no sugar, no albumin in the urine, continuous slight fever, extreme hypoglobulia. Death in coma followed in about a week. The only lesion found at the necropsy was the extraordinary woody hardness of the pancreas, which weighed 210 grams, with fibrous sclerosis between the acini. The pancreatic duct was dilated into an ampulla filled with clots and calcareous concretions, closing the lumen entirely on the side toward the intestines. In another observation of polyuria of 16 to 24 liters a day and great emaciation, ingestion of fresh pancreas reduced the amount of urine by several liters, but it returned to the previous amount every time on suspension of the pancreas. The patient was lost sight of. Polyuria has also been noted in a few cases on record with carcinoma of the pancreas.

Semaine Medicale (Paris), Dec. 13, 1899.

Gas Cysts in Intestines in Man. HOLSTEIN.—Two cases of gas cysts of the bladder are on record, noted at the necropsy, and several of the vagina, and they have been found at necropsies, in the intestines, similar to the intestinal cystic pneumatosis found in cattle and hogs. A microbian origin is obvious; Lindenthal and Dupraz have both isolated a coccus which reproduces these cysts in animals. The first case diagnosed *intra vitam* in man was reported by Hahn, last October. He succeeded in restoring the patient to health by a laparotomy, excising all the pedunculated cysts and crushing the others. They ranged from the size of a pea to that of a nut, scattered through all of the large and part of the small intestine. Comparing the symptoms observed in this case with the findings and anamnesis at necropsies, we note that the subjects have usually been affected with gastro-intestinal disturbances for a long time, with much distension of the abdomen, and obstinate constipation in which purgatives are impotent. Besides the constant constipation, there are symptoms suggesting gastric ulcer, pain in the epigastrium, vomiting of black or bloody masses, occasionally symptoms of ileus. The affection develops slowly and sometimes lasts several years. The subjects are generally much emaciated, and succumb to marasmus or intestinal occlusion. Examination of the abdomen affords the most valuable information. In Hahn's case elastic resistance to pressure was noted at various points, giving a tympanic sound on percussion, while echinococcus cysts give a dull sound. The stomach is considerably dilated and displaced by the tumefied intestinal loops. The probability of the transmission of the disease from pork imposes the necessity of stricter surveillance of meats.

Berliner Klinische Wochenschrift, Dec. 11 and 13, 1899.

New Scientific Basis for Organ Therapeutics. P. F. RICHTER and A. LOEWY.—We know that the uterus becomes atrophied after removal of the ovaries, and that the general organism is affected in various ways; in 25 to 35 per cent. the subjects grow fat. The experimental research here reported shows that the interchange of gases and consumption of oxygen are materially diminished after castration. The difference becomes striking by the tenth to fifteenth week, possibly coinciding with the atrophy of the uterus, and suggesting that it may at first substitute the missing ovaries. The consumption of oxygen diminishes constantly and permanently, an average of 10 per cent. The oxidating power of the protoplasm, which has the metabolism in charge, is reduced—the metabolism falls off

9 per cent.—and this reduction is the cause of the gradually developing obesity which may be mechanical—the body passive—or it may be an organic anomaly leading to the accumulation of fat by the altered destructive powers of the cells. This fact of the diminished interchanges after castration affords a test for organic or "substitution therapeutics," and oöphorin—ovarian substance—has responded to the test. When the effect of castration is at its height, that is, in about fourteen weeks, ingestion of oöphorin promptly restores the interchanges to normal and not only restores the consumption of oxygen to normal but raises it above normal. On suspension of the oöphorin the former conditions return in a week. This influence on oxidations suggests its therapeutic application in all cases in which the oxidating power is subnormal, as in obesity, either constitutional or consecutive to castration or the menopause. Normal, uncastrated animals were not affected in any way by the oöphorin, whose harmlessness has been fully established. Thirty tablets a day have been taken with impunity (Burghardt). It was also noted that the consumption of oxygen diminishes after castration in male animals, the same as in females, but much more rapidly, in days instead of weeks. Thyroid and ovarian medication can scarcely be compared, as the loss of the thyroid function is so profound and far-reaching in its effects. The difference between them is most evident perhaps, in their effect on normal subjects. Loewy reports experiments which tend to establish that oöphorin has no influence on the albumin metabolism. The increased metabolism that follows ingestion of oöphorin is at the expense of the non-nitrogenous elements. Virchow urges further research to determine the essential and non-essential elements of the ovary. His study of the suprarenals has shown that the juice in these organs is exclusively limited to a certain portion of the organ, between the cortex and the medulla. "Possibly the Graafian follicles might be cut out and used exclusively for ovarian medication." Loewy has succeeded in isolating an effective substance from the ovaries, leaving an ineffective residuum, but it rapidly deteriorates. Jacobs of Brussels makes an ovarian wine. Pinkus has recently stated that the fear of phenomena due to the loss of the ovaries is much exaggerated, and that the general consensus of opinion at the late gynecologic congress was that it seems to be immaterial whether or not the ovaries are left in operating. Fritsch has never had a case of serious trouble from this cause in six hundred total vaginal extirpations, and as many more ovariotomies.

Acute Lead Poisoning. W. ZINN.—Symptoms of acute intoxication appeared six hours after ingestion of what was supposed to be sodium bicarbonate. The diagnosis was made from the line on the gums, and the presence of lead in the urine, still perceptible in twenty-five days. It was found that a teaspoonful of a silver polish had been taken by mistake. It contained about 15 gr. of lead oxid. The syndrome continued for ten weeks, assuming a more chronic character after the first; pulse 66 to 68; complete recovery.

Centralblatt f. Chirurgie (Leipsic), Dec. 30, 1899.

Treatment of Chronic Hydrops Genu. G. MUELLER.—The patient stays in bed a few weeks with a bandage of starched gauze wound from the foot above the knee with considerable compression, the limb raised. Another tighter bandage is wound over the first the next day and so on. Then wedge-shaped pieces are cut out of the bandage over the knee, and the bandage applied still tighter. The leg above the knee is massaged during this time. The bandage is removed at the end of eight days, and the joint will usually be found entirely free from swelling. The leg is then massaged also below the knee, and the joint douched with alternate hot and cold water for five minutes a day. Later come passive and then active and resistance gymnastics of the knee, and the patient is dismissed with an elastic knee-cap and the admonition to refrain from all but light work, especially lifting or carrying heavy burdens. If the hydrops recurs, then the only means to cure it is by relieving the joint of all weight and work with a Hessing splint or a home-made contrivance for the same purpose.

Deutsche Medicinische Wochenschrift (Leipsic), Dec. 14, 21, 28, 1899.

Cholecystotomy with Water-tight Drainage. POPPERT.—The number of cases treated by Poppert's method is now 162, and experience is confirming its value. The gall-bladder is opened and evacuated as usual, and then a stout Nélaton catheter is inserted and the wound sutured around it, the thread passing through the surface of the catheter in both the deep and superficial sutures. A safety-pin is also passed through the dressings, and a rubber tube connects it with a glass receptacle. Before the final closing of the wound, a few strips of gauze are packed around the catheter. The dressings are changed in five or six days, and then twice a week. The tampons are loosened and gradually removed until all have been taken out in two or three weeks. The irritation of the gauze ensures a reliable packing around the catheter. The gall-bladder is thoroughly flushed as the catheter is removed, usually by the end of the third week, and stones sought with the sound and curette. Among the advantages of this method of drainage are its applicability to cases of all kinds, shriveled, friable gall-bladders, abnormal position, etc., the simple technic, and that it protects against infection of the abdominal cavity. Hernia or fistula has never occurred in any case. The method is especially advantageous in choledochotomies—29 cases. It ensures the success of the operation even with complications, and has given patients greater confidence. Before 1897 only forty-four had applied for operation, but since then the number has risen to 233.

Etiology of Epidemic Cerebrospinal Meningitis. L. ZUPNIK.—A young man was brought to the clinic with a fatal case of cerebrospinal meningitis, and a meningococcus was derived from lumbar puncture, supposed to be Weichselbaum's coccus, but differing by certain peculiarities in culture, resembling more the gonococcus. Comparing the bacteriologic studies of this disease, on record, Zupnik is convinced that the causative agent of epidemic cerebrospinal meningitis is losing more and more the specific character once attributed to it. Besides Fraenkel's pneumococcus and Weichselbaum's meningococcus, Pfaundler has observed two different "types," and Kister a meningococcus, while the micro-organism found by Zupnik and probably identical with one described by Pfaundler in a recent work, adds another to the list. "It seems evident, therefore, that epidemic cerebrospinal meningitis is an infectious disease which, like other infectious processes, such as pneumonia, endocarditis and acute suppurations, has no single etiology. The epidemic character of the disease can be explained by assuming that the cause is not in the micro-organism itself, but in certain external deleterious influences which simultaneously affect and lower the resistance of large numbers of persons."

Formation of Sugar from Albuminoids. F. BLUMENTHAL.—This review concludes with the statement that the formation of glycogen after ingestion of albumin does not depend entirely on the carbohydrate group in the albumin molecule. The glycoside nature of albumin and glycogenesis must still be considered entirely separate, "and no well-founded and unassailable theory in regard to glycogenesis yet exists." The abundance of carbohydrate groups in glycogen-free animals, which the writer has established, may explain the glycogenesis after ingestion of casein, leucin, urea, etc., by the formation of the glycogen from carbohydrate groups already on hand. The glycoside nature of all albuminoids, with the exception of casein, suggested to Pavy the idea that the casein might have lost its carbohydrate, which it had abandoned to the milk in some fermentative process. Extending this conception of a fermentative process to the organism, it would explain that severe form of diabetes in which sugar is formed in spite of the absence of carbohydrates from the food. The albuminoid is unable to retain its carbohydrate; abandons it and it is eliminated. According to this theory the carbohydrates must disappear from the albuminoids in severe diabetes, but this fact has not been confirmed, and the writer's investigation of the nucleoproteids of the liver and pancreas at the necropsy of a case of diabetic coma, showed them intact, also the albumin of the liver. The absence of a carbohydrate in casein explains the value of milk diet in diabetes, advocated by Leyden and Winternitz among others. (See THE JOURNAL, xxxiii, p. 1546.) The fact that carbohydrates abound in numbers of albuminoids suggests the question whether this is important in the diet of diabetics. If we accept tests *in vitro* as evidence, we must exclude the thymus, liver, etc., as organs rich in nuclein, but the writer asserts that since the discovery of the glycoside nature of the

nucleoproteids of the animal kingdom, we know of no diet that is free from carbohydrates, and especially muscle. Since carbohydrate groups have been found in the albuminoids of eggs, liver, muscle, etc., we have learned that as we determine the relation between different carbohydrates and the elimination of sugar by the individual diabetic, we must also investigate in the same way, the influence of the different albuminoids, on the elimination of sugar.

Diagnostic Significance of Acute Effusions in the Abdominal Cavity. H. BRAUN.—Since calling attention, in 1891, to the effusion that follows internal incarceration and accumulates so rapidly that its presence is soon disclosed by percussion, Braun has noted the effusion in a number of cases and at necropsies, but has also noted a number in which, with apparently favorable conditions, the effusion did not occur. He appeals for further study of the phenomenon, to establish its exact clinical value, and ascribes great importance to it. The acute effusion occurs with torsion of the intestine on its axis, inducing venous congestion, and with incarcerations of a portion of the intestine in abnormal cavities or openings, either congenital or formed by ligaments or a diverticulum, less frequently with invaginations. An acute effusion indicates the non-existence of ileus from a foreign body or a tumor. In every case of internal incarceration in which an acute or rapidly increasing effusion is noted, laparotomy should be urged or done at once, because it is in these cases particularly that the intestines become rapidly altered and gangrene ensues. When the abdomen has been opened on the probability of an internal incarceration, and a blood-stained fluid flows out, the trouble causing the effusion must be sought and found in every case, without resorting to an artificial anus. Torsion of the sigmoid flexure frequently causes enormous meteorism, and the systematic search for the trouble indicated by the acute effusion will save many a life doomed without it.

Origin of Leucocytosis and of Transportation of Bone Marrow Cells to Other Localities. P. LENGEMANN.—Normal bone marrow has a certain consistency, but after intraperitoneal injections in rabbits, of liver or kidney broth, or infection with staphylococci or the bacterium coli, or intoxication with sodium cantharidinate, etc., the marrow becomes dark red, almost black, and so soft that it is nearly fluid. The microscope shows that the leucocytes are more numerous than elsewhere in the blood, in the small spaces which are noted occasionally here and there in normal marrow, filled normally with blood, without walls, the blood washing the cells of the parenchyma or walled in by a delicate membrane. Some of the leucocytes only slightly project into the blood; others are only lightly attached to the parenchyma: others float freely in the fluid. As the marrow becomes dark red and soft, these spaces without walls become very much larger and more numerous, and the leucocytes are swept away by the increased volume of blood, and appear elsewhere in the circulation as a pronounced leucocytosis. The non-leucocytic elements of the bone marrow become so soft that even a slight jar is sufficient to detach a particle, and all these corpuscles, particles, etc., are swept by the venous circulation into the lung capillaries, and on into the main circulation, except the larger, which are sifted out and detained in the capillaries, where the giant nuclei gradually break up into grains and crumbs rich in chromatin, while marrow cells may drift into remote arterial vessels and long remain unaltered. The hyperemia gradually subsides, and by the eighth day the marrow contains less blood than in normal conditions. The blood is crowded out of the spaces mentioned above, by the results of greatly increased mitosis in the cells of the parenchyma, leucocytes, etc. Even the giant cells show more mitosis than usual. It is evident from the research here reported that the marrow becomes involved in many more affections than has been heretofore supposed, and that the processes accompanying leucocytosis induce marked alterations in the marrow.

Gazzetta Degli Ospedale (Milan), Dec. 10, 1899.

New Ocular Tonometer. P. GRADENIGO.—The instrument described and illustrated automatically records, in the most delicate manner, the degree of tension and its slightest variations, according to the writer's experience, free from all the inconveniences of others. The patient lies in the dorsal decubitus, wearing some stout test spectacles with adjustable rings in the center of each lens space. The gauge fits into and is held by one of these rings, after a few drops of cocain have been instilled and the lids held mechanically apart. The gauging is done with a glass rod sliding loose in a glass cylinder 44 mm. long, and the diameter of the cornea, projecting beyond at the other end, where a long index registers its movements.

Nordiskt Medicinskt Arkiv (Stockholm), Nov. 30, 1899.

"Sermo de Pondere et Longitudine Infantum Recens Natorum." H. ADSERSEN.—The weight and length of newly-born infants, as noted at various maternities, etc., are tabulated in the attempt to prove that they obey certain laws in respect to the astronomic months, analogously to the laws that have been established in respect to the growth at different years of life. It is remarkable how invariably the curve representing the length reaches its highest point in September. He urges others to note the weight and length of the newly born for an international collective investigation which may reveal important facts in regard to the influence of the locality and climate, as well as the calendar.

Primary Sarcoma of Small Intestine. F. WESTERMARK.—The neoplasm usually starts in the submucous tissue, where it may make its way as a thin plate, soon invading the muscular layer and the mucosa of the intestine, while the serous membrane escapes degeneration much longer. Sometimes the infiltration forms a sheath around the intestine without a so-called tumor, and the intestine in time becomes a rigid tube. In other cases the invading tumefaction develops under the peritoneal portion of the intestinal wall, forming masses of tumors covered with serous membrane, or it may develop into the lumen of the intestine. The symptoms in the three personal cases, added to the twenty-nine in literature, were dysuria, dull pain in the abdomen, colics and rapid emaciation commencing about three months before operation in two cases. A third had no pain or other abdominal symptoms, merely languor, pallor and rapid emaciation for a few months; the compact, movable tumor extended lengthwise across the abdomen, and recurred in five months after operating. In one case the tumor was the size of a man's head, oblong, irregular, not movable, the chief portion projecting into the small pelvis. This patient recovered. One died of ileus five days after operation.

Treatment of Gangrenous Hernia. J. H. AKERMAN.—The writer sent out a circular requesting the communication of the experiences of others in this line, and has compiled the 235 replies, in tabulated form with numerous particulars: 60 inguinal, 171 femoral, 2 umbilical, and 1 each of hernia lineæ albæ and obturatoria. The total mortality was 49.3 per cent. or 116. The mortality rose progressively from 25 per cent. after one day's incarceration, to 77.7 per cent. after that of six days; 66.6 per cent. after seven and 70 per cent. after eight days and longer. He remarks that these tables will probably prove very interesting reading in ten years, when he proposes to compile a similar article, for comparison.

Societies.

Rock River Medical Association.—The semi-annual meeting of this Association will be held at the Galt House, Sterling, Ill., January 24, at 10:30 a.m.

Mobile (Ala.) County Medical Society.—Newly-elected officers of this Society are: president, Wm. B. Pape; vice-president, C. N. Owen; secretary, G. H. Fonde; treasurer, J. G. Thomas.

Berks County Medical Society.—At the recently held annual meeting of this Society at Reading, Pa., the following officers were elected: president, F. W. Frankhauser; secretary, J. W. Keiser; treasurer, A. S. Raudenbush.

Johnson County Medical Association.—At the recent annual meeting, held at Iowa City, Iowa, this Society elected the following officers: president, James Murphy; vice-president, J. P. Mullin; secretary and treasurer, J G. Mueller.

Springfield Medical Society.—This Missouri Society held a meeting recently, at Springfield The newly-elected officers are: president W. C. James; vice-president, J. W. Williams; secretary, N. F. Terry; treasurer, D. B. Farnsworth.

York County Medical Society.—The newly-elected officers of this Pennsylvania Society are: president, W. C. Stick; vice-presidents, R. E. Butz and A. C. Rice; secretary, R. A. Harding; treasurer, J. F. Klinedinst.

Marion County Medical Society.—This Indiana Society celebrated its 25th anniversary the 2d inst., and elected officers as follows: president, William V. Morgan; vice-president, Frank Ferguson; secretary, Theodore Potter; treasurer, P. Scherer.

Madison County Medical Society.—This Indiana Society, at a recent session held at Anderson, elected the following officers: president, G. A. Whittledge, Anderson; vice-president, C. W. Suttner, Elwood; secretary, H. W. Collier, Anderson; treasurer, E. M. Conrad, Anderson.

Charlotte Medical Association.—At the recent annual session of this Association, held at Charlotte, N. C., the election of officers resulted as follows: president, C. M. Strong; first vice-president, J. R. Irwin; second vice-president, Annie Alexander; secretary and treasurer, W. H. Wakefield.

Fayette County Medical Society.—The following officers were elected at the recent session of this Society, at Uniontown, Pa.: president, John H. Davidson; vice-president, Charles H. Smith; secretary and treasurer, Levi S. Gaddis; assistant secretary, John D. Sturgeon; censor, J. C. McClenathan.

Nashua Medical Association.—This New Hampshire Association has just held its annual meeting at Nashua. The newly-elected officers are: president, Frank E. Kittredge; first vice-president, H L. Smith; second vice-president, Geo. F. Wilbur; secretary, Ella Blaylock-Atherton; treasurer, Albert Guertin.

Kansas City Academy of Medicine.—The Academy will hold its annual banquet February 6. The annual meeting and election of officers was held the 6th inst., resulting as follows: president, Jabez N. Jackson; vice-president, J. M. Langsdale; treasurer, C. Lester Hall; censor, B. C. Hyde; secretary, Ralph J. Brown.

Darke County Medical Society.—This new Society was organized at Greenville, Ohio, recently, with the following officers: president, A. W. Rush; vice-president, M. M. Corwin; secretary, W. T. Fitzgerald; treasurer, Donavan Robeson. Regular meetings are to be held the second Thursday afternoon of each month.

Weber County Medical Society.—At a regular meeting of this Utah Society, the 2d, the following officers were elected for the ensuing year: president, H. J. Powers, Ogden; vice-president, G. A. Dickson, Ogden; secretary, H. B. Forbes, Ogden; treasurer, T. S. Wadsworth, Morgan; librarian, E. M. Conroy, Ogden.

Medical and Surgical Society of Western Illinois.—This Society met at Whitehall, Ill., recently. Officers were elected as follows: president, H. W. Smith, Roodhouse; first vice-president, J. S. Williams; second vice-president, J. W. Hairgrove, Jacksonville; secretary, W. C. Chapin, Whitehall. The next meeting will be held at Carrollton, May 4, 1900.

Hartford Medical Society.—The annual meeting of this Connecticut Society, held recently, resulted in the following choice of officers for 1900: president, S. B. St. John; vice-president, George R. Shepherd; secretary, J. E. Root; treasurer, George K. Welch; librarian, F. T. Simpson. The Society is considering the establishment of a museum, also a laboratory for original research.

New York State Medical Association.—The sixteenth annual meeting of the Fifth District Branch of this Association will be held in Brooklyn, May 22, 1900. Diabetes is the topic for discussion. Fellows who are interested in this and have any clinical data to present or theories to offer, are asked to correspond with E. H. Squibb, secretary, P.O. Box 760, Brooklyn, N. Y.

Brashear Medical Society.—This Society held its first quarterly meeting at Bardstown, Ky., on the 8th inst., and elected the following officers: president, J. J. Wakefield, Bloomfield; vice-president, W. W. Ray, Springfield; secretary and treasurer, Wiley Rogers, Taylorsville. Our correspondent informs us that the Society was named in honor of Dr. Walter Brashear, who lived at Bardstown, Ky., and in 1806 did the first hip-joint amputation ever performed in America and the first successful one in the world.

Cumberland County District Medical Society.—The January meeting of this Society was held at Bridgeton, N. J., the 9th. After some routine business the society listened to a paper on "Idiopathic Tetanus," by H. G. Miller, of Millville, N. J. This paper elicited quite general discussion, and there were several interesting cases reported. The next meting will be in Bridgeton, in April.

Cumberland County Medical Society.—Officers of this Society were chosen as follows, at the meeting held in Carlisle, Pa., January 9: president, J. C. Davis, Carlisle; first vice-president, M. M. Dougherty, Mechanicsburg; second vice-president, George C. Bourst, Newville; secretary, Hilda H. Longsdorf, Carlisle; corresponding secretary, J. W. Lefevre, Boiling Spring; treasurer, J. W. Bowman, Riverton.

State and Local Boards of Health.—The tenth annual meeting of state and local boards of health of Ohio will be held in Columbus, January 25 and 26. A cordial invitation is extended to all officers and members of boards of health to be present. But few papers have been provided, so as to allow full discussion of the subjects presented. A reduced rate of one and one-third the regular fare has been granted on all railroads in Ohio, on the certificate plan, when the full fare is more than 75 cents. Tickets going may be purchased not more than three days before January 25, and tickets for return not later than three days after January 26, Sunday not being counted. C. O. Probst, Columbus, is secretary.

Cincinnati Academy of Medicine.

Dec. 18, 1899.

CASE OF ALOPECIA AREATA.

DR MEYER L. HEIDINGSFELD presented a patient of interest in that this disease had developed at the age of 2½ years. Out of the fifteen to twenty cases that had come under his observation, the present was the one patient in whom the disease had developed so early. The etiology in this instance is a little obscure. The spots which are present on his head are perfectly bald and are smooth and shining. There is also a nervous element which may be a causative factor in the development. The child does not sleep well, and is not strong. In persons of more advanced age, mental anxiety, financial reverses, and death losses of various kinds are supposed to exert not a little influence. Some investigators think the disease is dependent on the clinical fact that it is very liable to occur in epidemic form, for instance, in prisons, particularly where there are a large number of prisoners, fully two-thirds of the inmates may be attacked. Another reason for this theory is that it responds very promptly to antiparasitic treatment, especially to chrysarobin and the perchlorid of mercury given by the cataphoric method. The prognosis is usually favorable, except where there is a neurotic element, as in the present instance.

INTRALIGAMENTOUS CYST.

DR. C. L. BONIFIELD presented this topic. The cyst, when in the abdomen, was of large size, reaching to above the umbilicus. The three most common forms of cysts in this region are the ovarian, the parovarian, and the ordinary ligamentous cyst. Of the last there are the unilocular and the multilocular. The true ovarian cyst is always multilocular, and usually contains a fluid of varying thickness. The broad ligament cyst was very well represented by the specimen he presented, in that it had a very thin wall and clear lymph-like contents. They may assume the papillary form and even be semimalignant, particularly if the sac is ruptured and the contents allowed to escape in the peritoneal cavity. In the present specimen there was no evidence of an ovary, nor was it multilocular. Goodell was the first to popularize the method of removing these cysts, but Minor of Buffalo was the first to call attention to this method of operating. At first, however, the operation consisted only in opening the cysts, removing their contents, and stitching the cyst wall to the abdominal parietes, a drainage-tube being inserted. In this day this necessity of such free drainage does

not exist. In this patient he closed up the rent in the broad ligament with a row of sutures extending from the mesocolon across and down one side of the uterus.

APPENDICES.

DR. EDWIN RICKETTS presented these specimens. In one instance, a boy, 12 years of age, was suffering from his third attack of appendicitis. During the twelve hours previous to seeing the case, the patient suffered so much that it had become necessary to give him morphia hypodermically. During the two previous attacks the patient also had considerable pain in the appendiceal region. On opening the abdomen the appendix was found flexed upon itself and laid down on the inner side of the intestine. About a teaspoonful of pus was found at this point, while a little lower down was found another pocket of pus.

GALL-STONES.

DR. GILES MITCHELL presented some stones he had removed. He first saw the patient about ten days ago. She gave the usual history of periodic attacks of localized pain and constipation extending over a period of three to four years, and was slightly jaundiced. She was suffering from an acute attack of colic, the temperature 102.5 F. There were three stones, quite large and showing facets, and they were of the mulberry variety. The fluid in the gall-bladder was clear and almost colorless. The smallest of the stones was well down in the duct, and was removed with some difficulty.

VAGINAL SECTION.

DR. C. D. PALMER, in his paper, while recognizing the fact that abdominal section was often preferable in the diagnosis and treatment of lesions of the pelvic viscera, thought that there might not infrequently be cases which could be relieved equally as well by the vaginal route and without the danger which always attends abdominal section. Vaginal section implies a division of the tissues of the vaginal vault into the peritoneal cavity, and the opening might be made either anterior or posterior to the cervix uteri. He prefers the posterior section, as it is more easy of execution and safer, with fewer blood-vessels, and is the better for diagnosis and treatment. The posterior opening having been made, the fingers of the operator can be readily introduced, and the size, shape, position of the uterus, new growths if any, and the condition of the peri-uterine structures easily mapped out. Any fluid that may be present in the most dependent part of the peritoneal cavity can be effectually evacuated. Bimanual examination can be performed with the greatest facility, and the appendages if necessary, be drawn down into the vagina. Irrigation can also be performed without danger and free drainage secured without difficulty. No stitches are necessary, and the wound usually closes without loss of time when the packing is removed. Convalescence is not prolonged and is usually painless. In septic conditions of the pelvic organs, uterine curettage should first be performed before resorting to more radical methods. If not successful, removal of the diseased organs can be as readily done and with as good result by the vaginal as by the peritoneal route. Old chronic peritoneal exudates with adhesions, not large but extremely painful, and when not situated too high up, will often undergo resolution after vaginal section. Pelvic abscesses, when not complicated with disease of the appendages that requires removal of the latter, are best treated by this method. However, when the abscesses are multiple, as they are not infrequently, they can perhaps be best treated from above. Selected cases of ectopic gestation, particularly in the earlier months and when the growing mass bulges into the vagina, can be easily and successfully treated by section through the vagina. A prolapse of the ovary, which is usually complicated with chronic adhesive conditions within the pelvis, and which is often associated with great pain and a depressed condition of the entire economy, may also be successfully treated by removal through this route. Retroflexion with retroversion when without grave adhesions, can often be treated by attention to the usual details of dress, posture, pessary, etc.; but when the strength of such adhesions resists such treatment, these posterior adhesions can be as readily treated by the vaginal as by the abdominal section. On the other hand, this operation may be overdone. It can not entirely supersede abdominal section in all cases of pelvic disease, either as regards diagnosis or treatment. Well-defined cases of pyosalpinx, ovarian abscess, all pronounced ovarian cysts of whatever kind or size, fibroid tumors of the body of the uterus, intramural and of good size, seriously diseased appendages, shortening of the round ligament for retroversion, are managed best by the abdominal section. Success in operation very often depends on free inspection and easy manipulation; unquestionably, abdominal section renders the pelvic organs the more accessible. Vaginal section is rarely attended with danger. The vagina must be cleansed as carefully as possible. Posture will usually prevent the intestines from descending far enough to be injured. With the exercise of ordinary care the ureters and the uterine arteries will escape injury.

Philadelphia Pathological Society.

Dec. 14, 1899.

SARCOMA OF ORBIT AND CHOROID.

DR. G. E. DE SCHWEINITZ read a paper on, and presented specimens of choroid and orbit, with recurrence in the latter. The patient was a butcher, 36 years of age. Five years previously the left eye began to trouble him and he was told to consult an ophthalmologist. The patient was first seen in May, 1899, at which time the eye was glaucomatous. It was removed on May 12, 1899. Rapid recovery ensued and he enjoyed good health for six months, when recurrence was noted in the orbit. The entire orbit was then eviscerated. The growth apparently had its origin near the entrance of the optic nerve. The lens was cataractous. On microscopic examination the episcleral vessels were found enlarged. The ciliary granules were found near the entrance of the optic nerve, and similar pigment granules scattered in different areas. Cylindric cells were noted in abundance. The nerve bundles were infiltrated. The central artery of the retina was filled with the granular material. The growth was therefore a melanotic sarcoma.

SYPHILIS OF THE LIVER.

DR. J. A. SCOTT presented a specimen and read a paper on this subject. Previous to 1847 few cases of syphilis of the liver had been reported. In over 3000 cases of syphilis reported by one writer, the liver showed manifestations of the disease in only nine instances. Hutchinson considered this organ the most common seat of the disease in the later stages of syphilis. The liver seems to be more frequently affected in those cases in which there is only a slight rash present. Osler described three types of syphilis of the liver. In this organ, the changes noted are whitish or grayish growths on the surface, and in some instances soft cicatricial or gummatous areas may occur. In certain cases friction sounds of perihepatitis may be heard. Enlargement of the spleen has been noted. Dropsy is common.

This patient was a man 60 years of age, who had suffered from all the diseases of childhood. Forty years previously he had a chancre, but under appropriate treatment no other symptoms had been manifest. About one year previously the abdomen became prominent, but there were no symptoms of the previous disease, and the patient only thought he was becoming stout. In April, 1899, the abdomen was filled with fluid, and the man was subsequently tapped several times, and in all, twenty-nine gallons removed. Neither the liver nor spleen appeared to be enlarged.

At the autopsy, the liver was found adherent to the anterior wall and ribs. The pleuræ contained serous fluid. The spleen weighed 1200 grams, the kidneys were swollen, and the liver weighed 2200 grams; a large, deep, transverse scar was found between the two lobes. The pancreas was in the dislocated long diameter of the body, so that the head was turned upward. In the liver, the blood-vessels showed distortion and thickening of the intima.

DR. L. N. BOSTON also presented a specimen of syphilis of the liver. The patient was a woman, 32 years of age. For the previous six months the abdomen had increased in size, emaciation had been marked, the skin had been lemon tinted, and vomiting of blood had occurred. On Aug. 24, 1899, a large amount of clear serum was removed from the abdominal cavity.

At the autopsy, the heart was normal, spleen enlarged, kidneys congested; the liver was yellowish-gray in color, and con

tained small yellowish-gray spots from the size of a millet seed to that of a pea, and surrounded by bands, the center being somewhat depressed, microscopic examination showed the liver cells well formed, but there was an excess of fat near the periphery of the lobules.

DR. JOSEPH MCFARLAND stated that the principal change noted was cirrhosis with puckering of the capsule.

DR. W. M. COPLIN spoke of a similar condition of the liver occurring in a girl who had died of typhoid fever.

DR. J. D. STEELE several years ago saw a specimen of liver obtained from a typhoid case, in which there was a small circumscribed process showing a great increase of connective tissue.

DR. DAVID RIESMAN was of the opinion that the specimens were of syphilitic liver, yet he held that there might also be other diseases which could show this change.

DR. ALFRED STENGEL thought the specimen presented by Dr. Boston more characteristic of syphilis of the liver than that of Dr. Scott. The latter specimen he considered quite rare.

DR. J. A. SCOTT, in closing the discussion, said that there could be no doubt that his patient had previously had syphilis. He had been treated by a noted physician of this city.

CARCINOMA OF ESOPHAGUS.

DR. A. A. ESHNER presented a specimen of this affection, from a patient 60 years of age. The usual symptoms had been noted. The red blood-cells numbered 3,225,000 per cubic millimeter. The seat of the lesion was about eleven inches from the teeth. At the autopsy, the locality was found ulcerated and contained cheesy masses. The lungs also contained tubercles. Cultures made from the ulcer showed diplococci and pneumococci. Section proved the growth to be an epithelioma.

CASE OF ANTHRAX.

DR. J. H. JOPSON and DR. A. A. GHRISKEY reported a case of anthrax. The patient was a man 48 years of age, an employee in a morocco factory. He had previously been working with raw hides received from Turkey. Infection had been through a scratch received on the forearm. A few days after the injury of the part, a swelling was observed. Some time later a number of small vesicles surrounded this area, the central zone of which began to turn dark. He was etherized and an incision made over the inflamed area, but no pus was found. Gelatinous material was found in the region of the olecranon. Subsequent to the operation, temporary improvement occurred, but death finally resulted. A bacterial examination was made from the contents of one of the vesicles. Inoculations were made on glycerin agar and other media, and stained with Loeffler's alkaline methylene blue solution. Large bacilli were numerous, as were staphylococci. Subsequent inoculation into a white mouse produced death.

In Pennsylvania the disease is very rare. Outbreaks have occurred in Louisiana, Delaware, New Jersey and Pennsylvania. The disease has been known to result from the importation of hides received from China, Siberia and South Africa. Death in these cases probably results from metastasis to some of the internal organs.

DR. A. A. GHRISKEY followed with a detailed account of how the cultures were made in this case. In 10 per cent. glycerin and on agar, the growths had been characteristic, showing the ribbon-like bands. With a low power lens, the curling or wavy lines were noted. Inoculations made on a white mouse caused death and from the heart's blood pure cultures of the bacilli were found, which stained with Loeffler's alkaline methylene blue. The bacilli were large, non-motile, and occurred in chains.

Philadelphia County Medical Society.

Dec. 18, 1899.

TRAUMATIC PUNCTURE OF EAR-DRUM.

DR. FRANCIS A. PACKARD read a paper with this title. In a series of 1500 injuries to the ear, treated in the Pennsylvania Hospital, the membrana tympani had been ruptured in 11 instances. In a series of 5400 cases of injuries to the ear, reported by Randall, the ear-drum was found ruptured in 8 instances, while in another series of 731 cases, reported by another writer, perforation was found 18 times. In the series of injuries producing this condition, as found in the statistics of the Pennsylvania Hospital, the accident occurred from the following causes: 2 from falls upon the head; 2 from foreign bodies; 1 while bathing; 1 from rarefied air while the patient was in a casing; 1 from a weapon; other causes operated in the other cases. The drum membrane has often been ruptured during irrigation of the external ear. One writer reported a case occurring during the vomiting of pregnancy, and many have occurred as a result of "boxing" the ears. The condition has often been noted as a result of the explosion of gunpowder. In another case a stroke of lightning was the cause. The treatment is very simple, for the most part expectant. The procedure followed in the above series of cases was to simply keep the parts cleansed.

DR. L. J. LAUTENBACH reported a case in which a sailor had sustained a rupture of the drum membrane as a result of the discharge of a large gun on board a man of war. In this instance a shred of the membrane was blown off. This condition has been noted in several instances. The accident is more apt to occur when the person stands in what is called an exposed part of the vessel, than when he stands in what is called the "nodal" point. Rupture of the drum membrane occurs in patients suffering from nephritis.

DR. F. A. PACKARD, in closing the discussion, stated that rupture of the drum membrane was observed in sailors after the battle of Santiago, when the men did not have time to take the necessary precautions against this accident, whereas at the battle of Manila, when everything was planned previously, and when the men had placed cotton in the ears, such injuries did not occur.

VAGINAL DRAINAGE IN SUPPURATION.

DR. GEORGE ERETY SHOEMAKER read a paper entitled "A Successful Operation, Preliminary Vaginal Drainage, and Subsequent Laparotomy in a Severe Case of Pelvic and Abdominal Suppuration." Mrs. K. G., aged 33 years, married, had two miscarriages, the last one three months previously. There had been high fever, distension of the abdomen, and dulness in the pelvic region. Incision into the posterior cul-de-sac evacuated a large collection of pus. After its discharge a rather hard tumor was felt above the pubic bone, which was pushed downward, incised, and a large collection of greasy, purulent material escaped. Drainage completed the operation. The patient returned five months later, and the remainder of the dermoid cyst was removed without difficulty. The histories of two other cases were cited.

N. Y. Academy of Medicine,

Section on Pediatrics, Dec. 14, 1899.

ICHTHYOSIS.

DR. ROSA WELT-KAKELS exhibited a girl 12 years old, afflicted with ichthyosis, most marked on the soles.

DR. A. JACOBI remarked that by percussion, while the child was leaning forward, he had been able to determine the persistence of the thymus gland in this patient. By warm baths, lasting continuously for two or three days, and by the internal use of arsenic and of the thyroid extract, he thought she might be improved.

INTUSSUSCEPTION.

DR. FREDERICK KAMMERER opened the evening's discussion on this by some remarks on the treatment. Regarding the injection of fluid into the rectum, he said that this method is only applicable to cases of the colic or of the ileocecal variety. At one time he made some experiments which convinced him of the futility of attempting to reduce an intussusception of the small intestine by enemata given at a pressure which would not be likely to cause rupture of the colon. In young children a hydrostatic pressure of more than three or four feet should not be used; the quantity of fluid used is of secondary importance. After all, the chief objections to this method of treatment are the delay incident to its use, and the impossibility of knowing whether or not the intussusception has been completely reduced. He is of the opinion that early operation will greatly reduce the death-rate in this affection. In endeavoring to reduce the obstruction, it is safer to compress the sheath at a point a little above the intussusception, in addition to making the [illegible] Intestinal anastomosis, total resection and the making [illegible]

artificial anus are all procedures associated with a very high mortality, though Kocher recently reported five successful cases of total resection.

DR. CHARLES L. GIBSON gave the results of a study of 187 cases of acute intussusception reported since 1888, and maintained that the prognosis depends absolutely on the promptness of surgical relief. By means of various tabulations, he endeavored to show that the earlier laparotomy is performed, the larger the percentage of reducible and uncomplicated cases, and the better the prognosis.

DR. FREDERICK HOLME WIGGIN said that having become impressed with the idea that the manipulations associated with the injection method of treating intussusception were productive of more shock than laparotomy, he proceeded to collect a series of cases for study. He was then able to demonstrate that the enema treatment was actually followed by a higher death-rate than early laparotomy done by experienced surgeons. He believes that surgeons generally are coming to accept this view, though medical men still seem to be wedded to the old injection treatment. The time is not far distant when the whole profession will consider this same injection treatment just as unsuitable for cases of intussusception as they now do for the relief of a strangulated hernia.

DR. WILLY MEYER took the same position as the last speaker, and pointed out the weak points in the injection treatment, viz.: 1, the large percentage of cases of the ileocecal variety, or those not amenable to this treatment, and 2, the danger and unreliability of this method.

DR. A. JACOBI took a very decided stand against operating at once in all cases of acute intussusception. The child should be supported by a pillow, with the hips elevated, and the fluid should be injected by means of a fountain syringe elevated not more than twelve or eighteen inches above the anus. If this is done under chloroform anesthesia, and the abdomen manipulated gently, no harm can result, and many patients will recover without operation. He advises that this method be tried in the early stages of every case of acute intussusception, being repeated two or three times, if need be, at an interval of one or two hours. If still unsuccessful, laparotomy should be done at once.

DR. CHARLES G. KERLEY said that as mistakes in the diagnosis of intussusception in young children are quite common, he desired to emphasize that if there are bloody stools associated with slight fever and with a prostration greatly out of proportion to the other symptoms, the physician is justified in strongly suspecting the presence of an intussusception. The speaker thoroughly agreed with Dr. Jacobi regarding the value of the enema treatment, and reported two cases which he had successfully treated in this manner.

DR. ARTHUR L. FISK related a case in which, by enemata, he had apparently succeeded in reducing the tumor on two occasions, a few hours apart, nevertheless the child had suddenly passed into collapse the following morning, and had begun to vomit stercoraceous matter. Laparatomy was then performed, and showed that what he had reduced was the portion in the colon, leaving a portion in the ileum unreduced. This only served to strengthen his belief that in intussusception of the ileocecal variety enemas serve rather to close the ileocecal valve more tightly.

Chicago Ophthalmological and Otological Society.

Dec. 12, 1899.

PRIMARY TUBERCULOSIS OF THE CONJUNCTIVA.

DR. F. C. HOTZ presented this case—a child 5 years old, with an unusual affection of the conjunctiva, which he diagnosed as primary tuberculosis. Both the father and the mother are living and in good health. No tubercular history, nor specific history was obtainable. The child had scarlet fever when 3 years of age, and had diphtheria in May. About seven weeks ago the mother noticed in the lower right quadrant of the right eye a slight injection of the bulbar conjunctiva, which gradually increased until the entire bulbar conjunctiva was involved. Six weeks ago, a week after the beginning of the trouble, there was first noticed a swelling of the pre-auricular gland, and later the glands at the angle of the jaw on the side corresponding to that of the affected eye became swollen. The child entered the hospital about ten days ago. When seen, the whole right side of the face was considerably swollen, the swelling due chiefly to an enlargement of the submaxillary glands and pre-auricular gland. The lids showed slight edema, and on everting the lower one, the conjunctiva looked granular and deep red. The ocular conjunctiva was swollen all around the cornea, particularly the lower right quadrant, which showed decided elevation, due to dense lardaceous infiltration, and on the top of this elevation there was an irregular yellowish patch, evidently due to ulceration, with a rough surface, as if little holes had been pricked into it. Upward and downward, following the margin of the cornea, and at a little distance from it, was noticed a number of yellow punctiform infiltrates; there was also some mucous secretion. Since the child has been in the hospital, the swelling of the cheek has decreased materially, and the enlargement of the submaxillary glands has decreased so much that now only small nodules are felt. The pre-auricular gland, first noticeable by its enlargement, has also been reduced in size to a great extent. The condition of the ocular conjunctiva has not changed materially. From this clinical picture of the affection the Doctor made the diagnosis of tuberculosis of the conjunctiva and, in order to confirm it, a bacteriologic examination has been made on several occasions; and in three tests the tubercle bacillus has been found. Cultures have also been made from the scrapings, which have not yet developed far enough to furnish any information.

The treatment so far has consisted simply in boric acid irrigations every morning and evening, and in the application of iodoform powder upon the conjunctival ulcer. It occurred to Dr. H. that it might possibly be of advantage in such a case, where the tubercular affection is still localized, only beginning to extend, as shown by the lymphatic disturbance, to subject this patient to the tubercular treatment. He therefore inquired whether it would be a proper procedure, believing it had never been used in such cases. So far these cases have been treated by curettement of the ulcers, or by cauterizations with or without the curettement; also iodoform has been used. The danger is the extension of the general infection. The case is of interest, as the affection is not very common, this being the first typical case that has come under his observation.

SCLERO-KERATITIS.

DR. H. W. WOODRUFF, Joliet, Ill., showed a case of sclero-keratitis in a woman of 29 years, who had hip-joint disease when 2 or 3 years old. Since that time her general health has always been good, with the exception of some rheumatic pains in the joints. A sister had hip-joint disease at 11 years. She has two brothers and two other sisters, all in good health. Her father died at the age of 68, of Bright's disease, and her mother died of typhoid fever at 48.

One year ago last October a slight inflammation began in the right eye, gradually getting worse, until last December, since which time frequent relapses have occurred, the longest period of rest being five weeks. There is general diffuse congestion of the sclera, more marked about the ciliary zone, with irregular triangular deposits in the cornea, with base in the sclera and apex toward the center of the cornea; no scleral nodules. The magnifying glass showed the cornea to be quite vascular, some blood-vessels extending beyond its center. This was the condition of the eye September 1, when he began treating her, and it is the same now. She has been treated with potassium iodid, in small and large doses, salicylates, salines, diet, etc.; locally with atropin and hot applications. Atropin had to be discontinued at one time on account of its poisoning, when atropin ointment was substituted. There is only a slight adhesion of the iris to the lens. Pain is not very severe, and is controlled by hot applications. The affection in this case was probably due to rheumatism, although there is no definite rheumatic trouble, simply a history of having pains. There is no tubercular history excepting the existence of hip-joint disease during childhood. This has not disturbed her since childhood.

RETINITIS PIGMENTOSA.

DR. ALBERT B. HALE presented this case. The patient, a Russian, 23 years of age, has been in this country only two months. He says that about twelve years ago he had a severe illness which lasted a long time, but he does not know what it

was. He had his eyes examined by an eye doctor in Warsaw, who at the time could not tell what was the matter. He is a painter by trade, an unusual trade for a man with his visual defect, and of late he has been obliged to give up his job because he could not see enough of the object he was painting. His associates had to help him out a great deal. He came to Dr. H. as a private patient, saying that he became so blind at night that he could not go about. So far as reading and writing are concerned, he gets along very well without any noticeable trouble. Vision is one-tenth in each eye, but on giving him time, from half a minute to a minute and a half, he can see perceptibly better. There is astigmatism in each eye, which has never been corrected, and slight manifest hyperopia. He accepts a minus cylinder which improves his vision, if he is given time, to about 6/24, which was the best Dr. H. could get in the left eye, better than in the right, although the field of vision in the left was more restricted than that of the right. Dr. H. showed charts of it, and said he got good reading that morning with the perimeter, and the illustrations show the field he has remaining in the left and right eyes. The central spot of visual perception is perfect. Outside of this he is blind to all colors. There is no difference in the reduced perception for red, blue or green in the small area just outside the clear central vision, while within this clear area he perceives everything. The large area outside of the central fixation point is completely obscured; it is the same way in the left eye. The pigment spots are very, very plain and typically arranged. They do not, however, encroach on the macula or on the papilla. The latter is the least bit pale, and the retinal vessels are drawn out to the usual hair-like condition which one sees in such a case of retinitis. The pigmentation does not extend to the periphery, so far as he can trace it. We have one area the diameter of the ordinary disc which is heavily pigmented. Beyond that, up toward the equator of the globe, the retina and choroid are comparatively free from pigmentation. The fundus appearance is typical and beautiful.

SYMBLEPHARON WITH CORNEA ADHERENT TO PALPEBRAL CONJUNCTIVA.

DR. THOMAS A. WOODRUFF presented the following case for Dr. Casey A. Wood:

Joseph M., 12 years of age, while shooting off a cannon last Fourth of July, exploded a can of powder and the flame burst into his face, severely burning the left eye. There was a large upper symblepharon on the left eye, about seven-eighths of the cornea being adherent to the palpebral conjunctiva, with granulation tissue at the points of union externally, altogether involving an adherence of one-half of the whole upper palpebral surface with the eyeball. After treatment of the swollen lid and granular conjunctiva for three weeks, the palpebral conjunctiva was dissected free and the lower border stitched to the sulcus above. Contrary to expectations, there was no readhesion, and the patient's vision has improved, and the eye is clearing up, and now, one month after the operation, improvement is marked. The question arises, what further operation may be done, if any? Also, whether a Thiersch graft or a mucous membrane transplantation would be preferable?

DR. F. C. HOTZ—I do not quite understand the procedure adopted by Dr. Wood in this case. I believe it was stated that after dissecting the lid from the globe the palpebral conjunctiva was drawn from the cul-de-sac forward to cover the lid. I do not understand where this conjunctival flap came from; for it would seem to me the dissection produced two raw surfaces extending from the lid borders and the cornea respectively, all the way back to the fornix, and there was no palpebral conjunctiva left to draw forward. The result is certainly very good, as it has liberated the lid from the cornea, and given the eye good lateral motion. The lid shows a certain degree of ptosis. When you turn the lid, you will notice that its upper border is in close adhesion with the eyeball near the corneal margin, and unless it is dissected back freely and the defect covered with a graft on the eyeball, it will be impossible to open the eye freely, and in the future, if the patient has any annoyance from this close connection between the upper lid and the eyeball, I should consider it perfectly proper to perform a second operation in that direction to dissect the lid farther back and cover the wound on the eyeball with a lip graft.

(To be continued.)

Chicago Academy of Medicine.

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(Continued from p. 110.)

CRETINISM AND THYROID TREATMENT, WITH REPORT OF A CASE.

DR. FRANK X. WALLS presented this topic, in part saying: The thyroid gland in cretinism is frequently entirely wanting; or it may be rudimentary, or even very much enlarged through goitrous degeneration. In very rare instances the gland has been apparently normal, but even in these cases its functional activity has been arrested.

The disease is rarely congenital; in the greater number of cases it develops from the fifth to the eighth month, sometimes later, even up to the time of puberty. After this period, perversion, diminution or abolishment of the functional activity of the thyroid gland leads to myxedema rather than cretinism.

Complete and interesting papers on cretinism may be found in Osler's article in the supplement to "Keating's Encyclopedia of the Diseases of Children;" Murray's treatise in the Twentieth Century; or Ewald's monograph in Nothnagel's System, and I wish to acknowledge my indebtedness to these works for much that appears in this paper.

In this connection it may not be inappropriate to briefly review the theories of the function of the thyroid gland. Formerly it was believed that the only purpose of this gland was to give a beautiful contour to the neck; to express by swelling or condensing, strong emotions; and perhaps also to afford protection to the deeper organs. Later it was thought to exercise a controlling or regulating influence on the amount of blood going to the brain, because of the proximity of the gland to the large blood-vessels in the neck, and the rich cavernous spaces in the gland; and for long years an intimate relationship between the gland and the sexual apparatus was recognized. To-day it is universally acknowledged that the thyroid gland represents an organ indispensably necessary to the preservation of life, and there are two views concerning the manner in which the thyroid exercises its influence on the economy.

The views, in brief, ascribe to the thyroid an internal secretion that possesses either a nutritive or an antitoxic function; that is, that under the phenomenon of athyrosis there is withheld from the organism either a material necessary for its nurture, or a substance having an antitoxic action against certain products of tissue metabolism. The great majority of authors assign to the gland an antitoxic function, which in a direct or indirect manner antagonizes certain poisons of tissue metabolism, that, accumulating in the blood, injuriously affect the general organism and in particular the central nervous system. The gland might accomplish this result in two ways; the poison in the blood is destroyed while circulating through the gland; or the gland secretes an antitoxin that is taken into the circulation and exerts its influence after it has been incorporated into the general vascular system.

or studied a photograph, the recognition should be easy. Unfortunately, however, many cases are permitted to go for months or even years without specific treatment. A case I saw in London was sent, unrecognized by an urban practitioner, to the Ormond Street Hospital, for the removal of adenoids. The only conditions that might possibly be confounded with typical cretinism are dwarfism and the Mongolian type of idiocy. The dwarfs are frequently bright and intelligent and lack the pachydermic cachexia, and the Mongolian idiot, while it may resemble the cretin in appearance, does not have the myxedematous infiltration of the skin.

A child who presents a dwarfish frame, with undeveloped intellect and cretinoid facies, as depicted in the first photograph, and all cretins resemble each other almost exactly, and he who has boggy infiltration of the skin, is without doubt a cretin.

We can readily conceive of conditions of the thyroid gland in which its function may be impaired to a slight extent, to a greater degree, up to absolute abrogation of function: we can conceive of clinical cases that may present every gradation from the normal type to cretinism.

Cases that are suffering from a lessened but not abolished

functional activity of the thyroid gland may present diagnostic solution. These cases have been called by French writers *myxedema fruste*, and at times correspond to the symptomatic syndrome known as infantilism, and are discussed in the works previously referred to.

The treatment of cretinism consists in the administration of thyroid gland.

The intra-abdominal and subcutaneous implantation of sheep's thyroid has been attempted, but with no considerable measure of success. The subcutaneous injection of the extract of the thyroid gland was introduced by Murray in 1891, and soon after he suggested the feeding of the afflicted individuals with the glands either fresh or desiccated, and this latter method of administering thyroid is the most convenient and satisfactory that has been prepared.

The dosage of thyroid gland must be individually established in each case. The usual initial dose for a child is 5 gr. a day, increased to 10 or 15 gr., and continued until the cretinoid symptoms have disappeared. The treatment thereafter is to be continued, with perhaps a smaller dose, during the lifetime of the individual, else a return to cretinoid or myxedematous condition is inevitable.

In December of last year a cretin baby was brought to the Children's Clinic at Northwestern University, who since that time has been under observation and treatment, and shows such a marked improvement as might justify the publication of its history and the presentation of two pictures.

E. W., aged 16 months, was carried to the clinic by her mother because of a dry and harsh condition of her scalp, with scant growth of hair. The family history was entirely negative. The father and mother were young, healthy adults, with no evidence of diathetic or specific disorder, and not consanguineous. The child was the production of a difficult labor lasting sixteen hours, and the mother, a primipara, was delivered under chloroform.

The child was nursed by its mother until it was 1 year old, and then given soft foods, oatmeal, crackers, potatoes, etc. After 3 months of age, the child did not seem to grow, though it had a very good appetite and slept quite soundly. When 13 months old its hair began to fall out, and its scalp became dry and scaly. Later the skin about the knees and shoulders became dry and harsh.

At present the child does not walk nor talk, is intellectually dull, good natured, sleeps almost continually, eats well, but is obstinately constipated.

Status praesens.—The face presents the physiognomonic characteristics of idiocy. The complexion is of a sallow, whitish cast. The scalp is dry and scaly, the hair stiff and sparse and of irregular length. The anterior fontanelle is widely open, diameter 2 inches, and the posterior fontanelle is not yet closed. The forehead is low. The nose is small and retroussé, with large nasal orifices. The base of the nose is sunken and flattened, and the interocular space is very wide. The eyes are set far apart and seem to be quite small because of the thickened eyelids that almost close the palpebral fissures. The lips are thick, and puffed, and between them is protruding the large swollen dusky tongue. The gums are soft and show no signs of the eruption of the teeth. The neck is short and

thick, and the head hangs forward with the chin resting on the sternum.

The skin of the face and body is extremely dry and hangs in folds; it is quite thick, but yields no pitting on pressure. At the root of the neck on each side is a fatty-like tumor. The chest is short, the abdomen large, protruding and flabby, with a pseudohernia at the umbilicus. The arms and legs are thick and squat. The body length measures 22 inches. Such, in brief, are the notes of the case taken in December, 1898, at the time the first picture was taken.

The child was given tablets of the extract of the thyroid gland (Parke, Davis & Co.). At first 1 gr. of the extract was given three times daily, which is the dose the child is now taking. The second photograph was taken in October, 1899, and the change from a dwarfish, idiotic, repulsive thing to a bright, pretty, intelligent child is as remarkable as it is satisfactory.

The child, as the illustration shows, has lost all of the earmarks of cretinism. The fontanelles are closed, she has an abundant growth of hair, a good complexion, and soft, pliant skin; she walks, and talks in words of one syllable, has twelve teeth and measures 30 inches in height, a gain of eight inches in ten months.

Cretinism is a chronic disease due to a cessation of function or total absence of the thyroid gland, and is characterized by a growth-disturbance of the bony skeleton and the external soft parts, with a characteristic change in the physiognomy and severe disturbance of the sense organs and the intellect.

DR. JAMES G. KIERNAN—Dr. Walls quoted Osler as saying that there was not much of an underlying local factor found in the United States as compared with other countries in regard to cretins. Dr. Osler is evidently unacquainted with the results published in 1887, by the American Medico-Psychological Association, superintendents of various insane hospitals, and by a number of physicians connected with the Indian reservation. It would seem from the results that there was a continuous causal factor in connection with these American cases. The record of cretinism in English-speaking countries is following the same path that that of many other diseases has. It is just being brought to the attention and found to be rare. Then the general practitioner trains his powers of observation and finds a lot of cases. Progress in connection with cretinism in this direction has been unusually rapid since undeniably brilliant results have followed the thyroid treatment of the condition. There is very little doubt that there will be a large number of cases found from time to time, of imperfect cretinism due to a variety of conditions, occurring in a number of different cities and rural districts, but practically the same as those which obtain in Italy, Switzerland, etc.

BACTERIA AND ICE.

DR. ADOLPH GEHRMANN—In considering this subject from a sanitary standpoint, we have practically the same conditions to deal with as in the consideration of water: the chemical purity of the ice, then the bacteria that may cause disease. The chemical quality has to do with the purity of the water from which the ice is prepared. We can say that ice, as presented for use, both artificial and natural, contains bacteria in greater or less numbers, ranging from fifty up to three thousand per c.c.

As to contamination, the point in relation to typhoid fever is of great importance, and the bacillus coli communis is the indication of the presence of pathogenic bacteria. The methods of examination are those which are used in water analyses for the determination of the bacillus coli communis, and it is taken as an indication for contamination. We may also attempt to determine the presence or absence of the typhoid bacillus itself. Among the points of sanitary interest is the source of the ice-supply; this should be examined. As a rule, ice is procured from a definite locality, and the water in that locality can be examined before the ice crop is gathered. Then, when the ice is cut, it is stored in large quantities and remains there ready to be hauled away for use. It can be subjected to examination from time to time until it is to be used, so that its quality can be determined a long time before its delivery to the consumer.

When ice is found to be impure, according to the city ordinances, its distribution is limited to certain places, based on inspection of the conditions surrounding that particular place. There are two sources of contamination of ice: original contamination from the place where the water is obtained, as natural ice, while ice may be contaminated during its transportation by railroad companies. Ice is never considered as a food. It is classed along with manure, grain, feed, lime, and all merchandise materials, and handled practically in the same way. A series of experiments conducted by Mr. Kinnicott, formerly city chemist, in ice which was packed with various other materials, showed that it became contaminated so that a considerable number of bacteria were found in the cakes. Considerable contamination may result in this way. (Here Dr. Gehrmann related at length a case of infection from ice, resulting in several cases of typhoid fever.)

There is one point I might speak of in regard to disease bacteria in ice and the storage of ice, i. e., water in a pond or river will purify itself to a greater or less extent, but when water is frozen immediate preservation takes place. One of my early experiences with ice was in relation to a pond in the neighborhood of the city, from which the quality of water was doubted. Investigation during the summer time showed that arrangements had been made to fill the pond with water from Lake Michigan during the fall. The pond had been filled before the previous winter season, with Lake Michigan water, raising it to a level of some three or four feet. An ice crop had been cut and stored, and a portion of it was being delivered during that summer. This was during the first year that the city undertook the work of inspection. Analyses of the ice from this pond were made and condemned it for domestic use. The bacillus coli communis was found in the ice, and a considerable amount of organic matter of vegetable or animal origin. An examination of the water in the pond showed the absence of the bacillus coli communis, and the water contained a relatively less amount of organic matter. The point we had to deal with here was that the water in the fall had been contaminated lake water, frozen and preserved in the ice-house, while the pond, without the further addition of lake water, purified itself to such an extent that disease bacteria had disappeared. It was further found, in this connection, that when Lake Michigan water was not pumped into the pond, a reasonably pure crop of ice could be obtained from that source.

REPORT OF A CASE OF CESAREAN SECTION.

DR. CHARLES E. PADDOCK reported the following case: May 22, 1898, I was called by Dr. Van Pelt to see a case in labor. Examination showed the pelvis filled with a mass which very much resembled a child's head, and under certain conditions might easily be mistaken for it. Labor had progressed about twelve hours, the membranes having been ruptured for several hours. The cervix was found, with great difficulty, crowded up behind the pubis. The patient was a primipara, American, about 28 years of age, strong and healthy. She had never been aware of any tumor. She was removed to the Mercy Hospital, and there being no alternative, a Cesarean section was decided on. Under anesthesia, a hard mass, evidently a myoma, near the cervix, completely blocked the outlet. The four fingers could be passed into the cervical canal with great difficulty, making the canal about 2 cm. by 7 cm. This diameter positively decided the Cesarean section. Even had the child been dead, craniotomy would have been out of the question.

Dr. Halstead and Dr. Barnes assisting me, the patient was soon delivered, through the abdomen, of a ten-pound boy. I should judge the time from the commencement of labor to the delivery was twenty hours. The operation was the conservative Cesarean section, not removing the tumor.

The question may well be asked, Why was the Porro Cesarean not done? Kelly (Operative Gynæcology, page 425) says, "When there is good reason to anticipate sepsis; when, for example, the patient is exhausted by a protracted labor, and when manual or instrumental efforts at delivery have been made, etc., the Porro operation must be performed." In this case, the woman was considerably exhausted, and from the frequent examinations and early rupture of the membranes, sepsis was possible, still we decided to leave the uterus and tumor. The exhausted condition of the patient, and my experience in obstetrics, of some similar [illegible]

pregnancy, and subsequently diminish, and sometimes entirely disappear, led me to this conclusion. That I was partly correct is evident from the specimen which I show you.

The patient made a hasty recovery. A small stitch abscess was the only complication. Most authors speak of the lochia following a Cesarean section as being the same as delivery *per via naturales.* In this case the flow stopped the third day. If one stops to consider what happens, it is plain that the flow can not be the same. The child in passing down through the lower uterine segment and vagina in normal cases denudes the surface, so that we have a continual wound surface, which we do not have when the child is removed through the abdomen. I claim that most of the lochia, or a good part of it, comes from this denuded area and not from the placental site. I merely mention this as something that is liable to occur, and I believe does occur in cases of this kind, and that the absence of the usual flow may not worry the physician.

I saw the patient occasionally after leaving the hospital. The tumor gradually diminished in size, and six months after delivery it was hardly to be felt. Eight months subsequent to delivery the tumor had commenced to grow, and I advised an operation, and through the kindness of Dr. Franklin H. Martin, who removed the specimen, I am permitted to show it. It is a submucous myoma with pedicle attached at the junction of the cervix with the body of the uterus.

Just a few words regarding the Cesarean operation. It has generally been the custom to operate in selected cases when labor has commenced. The reason for this was the belief that the uterus would not contract. This is far from the fact, and I would strongly advise in such cases to set your time as near the termination of pregnancy as possible, have everything ready, and suit your own convenience; waiting until labor begins is dangerous. Your patient is not prepared for such a serious operation; the physician is away at another case; the membranes rupture, the cord may prolapse, and numerous complications may result. In selected cases or others, where infection of the uterus has not been possible, the uterus may be opened *in situ;* the abdominal incision in such a case does not need to extend more than a few inches above the umbilicus, or perhaps 20 cm. in all. In my case, however, where there was reason to anticipate sepsis, the incision extended high enough, so that the uterus could be lifted out on the abdominal wall, and sterilized towels packed firmly underneath to protect the intestines. An assistant firmly presses the abdominal walls against the uterus. The uterine incision is made as nearly in the median line as possible; still, if it is necessary to go to either side to avoid cutting over the placenta, you should do so. The placenta can be located by the doughy feel, by the elevation over it, and also by the increased vascularity over the site.

Great care should be given to the removal of the placenta. The contraction following the removal of the child is so great that the placenta may immediately become wholly detached. Grasping its fetal surface and raising, and at the same time twisting it, will readily detach the placenta together with the membranes. Any large pieces adhering must be removed. Small decidual shreds had better be left than to spend much time in removing them.

The uterine incision should run down to the reflection of the vesical peritoneum, which is easily recognized by a transverse white line in the cervical region. I can see no advantage in the incision advocated by Fritsch, of Bonn, namely, making a transverse incision through the fundus. In fact, to me it would have its disadvantages. After the incision has been made, care should be taken that it is long enough. It should be too long rather than too short; bringing the child out through a too narrow incision would not only cause delay, which is dangerous to the child, but might easily cause a severe rupture of the uterus. The child should be grasped by the feet, and only by the feet. Any other way, such as the arm, is awkward, can not be delivered as quickly, nor through such a small incision.

Another point worth remembering is to clamp the cord. I always do this in my normal cases, always having my forceps handy, and as soon as I am ready to sever the child, I clamp the cord in two places and cut between. This often saves time, and time is a very important item in many obstetric cases. Especially is it so in a Cesarean operation. Two valuable assistants are necessary in an operation of this kind; one assistant can entirely control the hemorrhage by grasping the uterus well down toward the cervix, and especially pressing the uterine arteries, which are readily found. Never use a rubber ligature around the cervix, as it is a dangerous procedure. It only favors atony, one of the things we wish to avoid, but it bruises the tissues to an alarming extent. No hemostatic forceps are necessary in this operation, after making your abdominal incision.

As to sutures, fine silk is probably as good as anything. Dissecting back the peritoneal covering for a short distance, pass the needle, avoiding the outer covering, emerging in the line of incision between the muscularis and the decidual layer; enter the other side directly opposite, coming out on the surface opposite the first; tie each ligature separately, controlling the hemorrhage. These sutures should be 1 cm. apart. A second row of sutures uniting the peritoneal layer and covering in the first sutures, completes the closing of the uterus.

The omentum should be spread carefully over the intestines, but not over the uterus. As a rule, adhesions form between the uterus and abdominal wall. Any infection in the uterine wound might find its exit through the abdominal wound. With the omentum over the uterus and adherent to it, the result would be different.

Too little attention is given to the after-treatment of these cases. There certainly is not the danger of infection per vaginam that there is no wound surface, but still, thorough cleanliness and the application of antiseptic pads over the vulvar orifice are obligatory. In a subsequent article, I intend to treat of this subject more especially relating to the indications for the conservative Cesarean operation and the Porro operation.

The opportunity to do a Cesarean operation is rare, but in skilled hands the mortality should not be any greater than any simple operation requiring an anesthetic. This being so, the idea of a craniotomy on a living child, in a healthy mother, can not be considered for one minute.

Chicago Medical Society.

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EXOPHTHALMIC GOITER, TRACHEAL STENOSIS, ETC.

DR. A. C. KLEBS presented a patient with exophthalmic goiter with tracheal stenosis and recurrent paralysis. The patient was a man, 22 years of age, in whom, of the three cardinal symptoms of Graves' disease, only the struma was well defined. The pulse ranged from 92 to 102. Exophthalmus was not very marked. The signs of Stellwag, von Graefe and Moebius were absent. There was a slight tremor of the hands, and inclination to perspiration, palpitation, nervous irritability and headaches. The struma was rather hard and pressed on the trachea, which was bulged in. There was paralysis of the left posticus, hence difficulty in respiration—stridor—and phonation. There was no distinct improvement after five weeks rest. Iodids and faradism had been resorted to without much benefit. The author believes that in this case partial extirpation of the struma is indicated.

DR. ARTHUR D. BEVAN said he was interested in the case from the standpoint of operation. He was not clear in his own mind as to whether this case should be classed among the cases of exophthalmic goiter or not. When he saw the patient, in consultation with Dr. Klebs, he recommended expectant and iodid treatment for a time at least. If, however, the patient did not improve, operation was justified. The expectant and medical treatment of exophthalmic goiter had not been satisfactory, if the statements of recognized authorities in internal medicine were accepted. In investigating the results of surgical operations on this disease, he had found some 230 operations had been done, partial strumectomies, with a cure in 45 per cent. of the cases, decided improvement in 23 per cent., some improvement in 11 per cent., failure in but 10 per cent., and a mortality of about 7.5 per cent. Surgery in this disease holds

out either a cure or improvement in eight out of ten cases. The majority of operations have been done on the theory that the disease is due to a hyperaction of the gland, the chemical theory, and the operations performed have been either partial strumectomies or else ligation of the thyroid vessels. A few operations have been done on the nerve theory—sympathetic—as to the excision of the disease. Results of operations on the sympathetic—cervical—have not been very encouraging. The best that can be hoped for is the removal of one of the symptoms of the goiter, and that is exophthalmus. Tachycardia, struma and tremor were not affected by the operation. Personally, he has operated on three cases, one of which was reported three years ago. Since that time he has operated on two others, one eighteen months, another three months ago, and so far as the disappearance of the symptoms is concerned, the results have been entirely satisfactory. Given a case of exophthalmic goiter, the diagnosis of which has been thoroughly established, the treatment should be that of expectancy and the usual therapeutic measures employed. If the case did not improve, he believed it was the surgeon's duty to give the patient the benefit of the relief which surgery offers.

DR. A. J. OCHSNER operated on his first case of exophthalmic goiter some five years ago, when his attention was directed to operative intervention in this disease. The patient was a woman, 18 years of age, with a pulse of 140, and all of the other symptoms strongly marked. He removed one lobe of the thyroid, and before the patient left the hospital her pulse came down to 70, and has remained approximately at that point during the past five years. Since that time he has operated on six others, all having done well. One of them, however, was too recent to speak of the permanency of the result.

DR. ARCHIBALD CHURCH said he was interested in the case from the standpoint of diagnosis. The three cardinal symptoms of the older writers—exophthalmus, thyroid enlargement, and tachycardia—were represented only by the thyroid enlargement and a slight rapidity of the pulse in this case. There were other symptoms, in his opinion, which are as important as the classic triad referred to—namely, mental irritability, general muscular weakness, and tremor, or Marie's sign. Of the latter three symptoms, only the tremor was present, so far as he could determine, and even this from a superficial examination did not seem to be the persistent, rhythmic thrill which is ordinarily found in cases of exophthalmic goiter of long duration. Then, too, the enlarged thyroid gland was so common to many other disorders that this symptom of itself carried very little weight in the diagnosis of Graves' disease. If in addition there were in this case flashings, sweatings, attacks of colic and diarrhea, albuminuria, glycosuria, or polyuria at some period, with a tendency to mental vagaries, some one or all of these, as subsidiary symptoms, taken with the thyroid enlargement, might serve to establish a diagnosis of exophthalmic goiter.

Speaking of the surgical treatment, Dr. Church said a word of warning should be injected, as such capable men as Horsley, Kocher and others who had done a large amount of work on the thyroid, experimentally and on human beings, had reported cases of sudden death following operative procedures, and instances of the same character had occurred in Chicago.

DR. JUNIUS C. HOAG had seen several cases that had baffled the most expert diagnosticians. He recalled one in particular in which the only prominent symptom manifested was tachycardia. There was a slight thyroid enlargement. The patient had consulted half a dozen neurologists, and "internalists," and some of the diagnoses made were "neurasthenia, hysteria," etc. Finally, he discovered a slight protrusion of one eye, and then the diagnosis of exophthalmic goiter occurred to him for the first time, which was subsequently confirmed by others. The medical treatment of the disease is extremely unsatisfactory, and the profession looks to the surgeons for help.

DR. KLEBS, in closing the discussion, and replying to Dr. Church, said that in his paper he mentioned nervous irritability, frequent headaches, perspiration, family stigmata, etc. He believes an operation would probably be the best thing to recommend in this case, and was glad that the surgeons who had spoken concurred with him in that particular.

GUNSHOT WOUND OF THE ABDOMEN.

DR. JACOB FRANK reported a case of this. The patient, Mrs. A., mulatto, was 23 years of age. She was accidentally shot with a 38-caliber revolver about 1:30 p.m., and was brought to the hospital four and a half hours later. The bullet entered the abdomen in the left hypochondriac region, two inches below the last rib on the left axillary line. No wound of exit was found. She complained of slight pain, referred to the point of entrance of the ball in the region of the kidney and about the uterus. As the woman was menstruating at the time, she thought the pain about the uterus was due to it, but as the bullet was found in the cul-de-sac of Douglas, the increase of pain was well accounted for there. From the position in which the bullet left the pistol, and from its entry, it was determined that it would be almost impossible for the ball to travel in that direction without injuring the intestine. The patient was anesthetized, the bullet wound enlarged, and the finger introduced with the hope that the track of the bullet might be followed. Failing to detect the ball, an incision, six inches long, was made to the left of the median line on the outer border of the rectus muscle, beginning 1½ inches above the umbilicus and extending downward and inward toward the mons veneris. On opening the abdomen, a small quantity of fluid and some blood were found, but no escape of intestinal contents. The patient was eviscerated, the parts being protected by warm towels, from the pylorus, noting the injuries to the intestines and marking them with a piece of gauze pushed through the mesentery. Examination showed the bullet, after penetrating the walls of the abdomen and perforating the walls of the small intestine, besides bruising two or three other portions, had dropped in the cul-de-sac of Douglas, whence it was extracted. A small bleeding point was found a short distance away. As it was impossible to repair the perforating wound with sutures in the gut, a resection was made and a 1⅛ inch Frank's coupler introduced and the anastomosis completed in the usual way. The bruised portions were closed with Lembert sutures. A gauze drain was inserted in the bullet wound incision. At the upper end of the laparotomy incision a gauze drain was introduced, and at the lower end a modified Mikulicz drain into the cul-de-sac, and removed after thirty-six hours. The patient made an uneventful recovery.

DR. FREDERICK LEUSMAN showed a young man with a chronic posterior urethritis of ten years' standing.

DR. D. N. EISENDRATH showed, first, a case of congenital nevus, involving all of the fingers of the right hand of a child 5 years of age.

GANGRENE OF FOOT.

The next case was one of gangrene of the foot following a Schede operation for the relief of varicose veins combined with ligation of the internal saphenous vein. The patient was not shown to throw discredit on an operation which has given most excellent results in the majority of cases, but simply to call attention to the fact that it may be, at times, followed by complete venous stasis and gangrene, and that the operation is not to be advised when there is much arteriosclerosis, as was present in this case, or when the return circulation will be at all impeded.

SURGICAL KIDNEY.

Dr. Eisendrath's third case was one of a patient who had been operated on 1½ years ago on account of a unilateral surgical kidney, with excellent recovery. The other kidney had remained apparently normal; the urine was clear; the patient had been treated with antitoxin for diphtheria since that time; and had also undergone an operation for cystic ovary. The case was chiefly interesting on account of the fact that the general teaching is that surgical kidney is most frequently bilateral, and such cases as the above show that nephrectomy for such a condition offers a good prognosis.

A specimen of surgical kidney was also shown, which had been removed from a woman at autopsy, who had suffered from a cystitis, and in which the opposite kidney was also found to be perfectly normal. Similar cases have been reported by Weir of New York.

DR. D. M. ADLERHOLD reported an interesting and instructive case of amœbic dysentery.

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DIAGNOSIS OF BUBONIC PLAGUE.

In October, last year, there convened in the Imperial Health Department at Berlin, a scientific conference for the discussion of questions relating to the plague. The wide field indicated seems to have been covered in a most exhaustive manner[1]. All the various problems, scientific and practical, of the various aspects of bubonic plague, were here discussed in a select gathering of recognized authorities. The results can not fail to be of immediate benefit to Germany and indirectly to other countries.

At this time it may be of advantage to refer to the paramount question of diagnosis, of especially the first suspected cases which may obtrude themselves at any time in seaports. Pfeiffer, recapitulating the more important observations in regard to the examination in plague, remarks that the blood does not carry the germ constantly; often but few bacilli are present; at other times they are present in large numbers, but may diminish rapidly and even disappear wholly shortly before death. Frequent cultures should be made. Bacilli grown from the blood at first develop slowly and poorly. In the pulmonary form, which is usually fatal, the bacilli are readily found in, and obtained from, the sputum. In light cases of plague the bacilli are often hard to find. The primary lesions are the most promising places while fresh. The pus of suppurating buboes is nearly always sterile. There is no theoretic objection to incision of buboes for securing material; the incision necessary is harmless, and often gives the patient relief. Great care should be exercised in the post-mortem of the first cases especially, in order to prevent the spread of the disease. The material especially necessary for diagnosis is the contents of buboes, the spleen and the lung, and the post-mortem need be carried no further than necessary to secure material for examination; often this can be obtained by punctures. Post-mortems should never be made by others than experts. Whenever possible, all examination should be made on the ground; transmission to distant places should be avoided; a special committee was appointed to draw up special regulations for the sending of material away in the event that should be unavoidable. Pfeiffer states that when the microscopic demonstration of the bacillus does not suffice, then cultures must be made, preferably on agar and blood serum, in pure infections; in mixed infections, gelatin slants kept at low temperatures are most serviceable. Inoculations should be made, especially of rats; rats infected by inoculation of the nasal mucosa should not again be touched; no animal experiments are to be made outside of the laboratory. As regards serum diagnosis, further investigations are essential before the matter can be cleared up satisfactorily.

The Prussian government has arranged and made ready for use three "flying laboratories" at a cost of about $750 each, as previously noted in THE JOURNAL. Four small boxes contain everything necessary for the examination of material of suspected cases of plague. When necessary these are to be sent on at the same time as an expert is hurried forward. In some of the quarantine stations rooms have been set aside for laboratory purposes in case of need. In this way the establishment of stationary laboratories can be dispensed with.

Of the many other problems discussed with equal thoroughness and with equally definite results, suffice it to mention that the Conference unanimously recommended the establishment of stations for the manufacture of protective vaccin material and of serum for the agglutination test, and of an institute for the preparation of antiplague serum.

The perusal of the report of the proceedings of this Conference carries with it the impression that the prescribed task has been accomplished with signal success, and that the plague, should it reach the shores of Germany, will meet a powerful and well-planned defense. The direct, practical value and application of scientific laboratory and clinical research are again demonstrated with a directness that points the value of this sort of cooperation in other problems of like nature.

[1] Centrabl. f. Bakt., Abth. i, 1899, xxvi, 713.

THE CRUSADE AGAINST TUBERCULOSIS.

There is no longer any question among those most competent to form an opinion on the subject, as to tuberculosis being a communicable, and to a great extent a preventable and curable disease. It is definitely known that only in the rarest instances is the disease as such inherited from the parent by the offspring, although a susceptibility or predisposition may be thus transmitted. Of the preventability of tuberculosis evidence will be found in the reduction in morbidity, and mortality effected wherever appropriate prophylactic measures have been instituted, apart from the knowledge that, being dependent on a palpable, tangible, finite cause, the control of this must necessarily inhibit the development of its effects. That tuberculosis is curable is established by the results of both clinical and pathologic observation, as exhibited in the large number of those restored to lives of health and usefulness, on the one hand; and to common detection of healed foci of tuberculosis in the bodies of those dead of other diseases, on the other.

A powerful impetus has been given in the last few years, to the movement directed to the prevention and the cure of tuberculosis. Medical literature teems with communications on these subjects, and at least one publication is devoted to their consideration exclusively. Congresses dealing with the various aspects of tuberculosis have been held, leagues and societies for the re-

striction of its ravages have been organized, and special hospitals and sanatoria for its treatment have been erected. The importance of the subject has always been appreciated by the medical profession, but signs are not wanting that the lay public has awakened to the gravity of the menace by which it is threatened in this great "white plague," and the vast possibilities of an intelligent, vigorous, and well-directed prophylaxis. Some interesting facts in this connection were developed at a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis, held recently. On this occasion the importance of educating the community in the ways of prevention was pointed out, and the need of hospitals and sanatoria for both the poor and the better circumstanced, particularly for the former, was emphasized, not less on economic than on humane grounds; not alone for the sake of the sick and the suffering, but for the protection of the well. The obligation is to be met in this way, and the interests at stake are far too enormous to be borne by individuals, and they naturally and properly devolve on the state. Questions of cost and maintenance were intelligently discussed by practical men on the basis of actual experience, and the necessity for the establishment of such institutions, not alone in the country but also in the city, and the situations best adapted for their location, were pointed out on the authority of personal observation. It was clearly shown that for the recognition and proper treatment of many obscure and otherwise inaccessible foci of disease, registration of cases of tuberculosis would be necessary.

On all sides the hopefulness of the movement stood out prominently. In the matter of hospital accommodations it was pointed out that, for the present at least, it might be best to utilize existing institutions, setting aside special wards or special buildings for cases of tuberculosis, as, in the first place, the public is not yet prepared for, and it would in many ways resent attempts at, the enforcement of absolute isolation, so that such a step would tend to defeat the objects of the movement. In the second place the cost of the necessary new plants, even beginning in a modest way, would be very considerable, and the next most important item would be the cost of nursing and of treatment. It would, therefore, seem best for the present to intelligently use our present resources, permitting the process of specialization and isolation to evolve gradually, and in this way to obtain the co-operation of the people in a movement whose results must in time prove of inestimable benefit to the entire human race.

PHARMACOLOGY OF THE ORGANIC NITRATES.

Modern pharmacologic research is slowly but surely establishing itself on substantial foundations. Time was, and not in a wholly remote past, when authors of textbooks of materia medica tried to analyze the pharmacodynamic actions of complex physical constituents in many drugs, such as digitalis, ergot, squills, etc. But the newer studies prosecuted in many laboratories demand a knowledge of the molecular chemical structure of the individual constituents before investigations are commenced, and the appreciation of the part played by the different chemical radicals in a complex synthetic combination, be it of digitoxin, chrysotoxin, scillain or acetanilid, is intimately bound up in the interpretation of the pharmacologic results.

No more promising field of experimental research has been opened up than the study of the effects of different radicals when added to well-known compounds, and the synthetic chemist and pharmacologist are hand and glove in their endeavors to work out new combinations of therapeutic utility. The study of the action of the various nitrates has always presented special attractions because of their great utility in the therapy of cardiac and vascular diseases; and the recent work of C. R. Marshall, professor of materia medica in the University of St. Andrews, on "The Pharmacological Action and Therapeutic Uses of the Organic Nitrates,"[1] offers some suggestions to those interested in the modern advances along the lines indicated.

He points out that two groups of these nitrate compounds may be distinguished: the *substitution* compounds, in which the nitrate group replaces a hydrogen

while for the most part not entirely new, yet amplify our conceptions of the action of some of the nitrates more commonly employed. Thus of nitroglycerin it is said that while it is given empirically in a great variety of disorders of the vascular system, but two groups of disease warrant its use. These are: 1, those diseases connected with actual or relative spasm of unstriped muscular fiber, and 2, nervous diseases. A third group, where its action would aid in the elimination of soluble toxins from the body, is best treated by other remedies. Glycol dinitrate possesses a similar effect to nitroglycerin, but is more rapid in action as well as more transitory, but by reason of its great expense will probably not come into general use. The solid organic nitrates, erythrol tetranitrate, mannitol hexanitrate are of service where gentle and prolonged dilatation of the blood-vessels is deemed necessary. The chief value, however, is in preventing the onset of anginal pains, for which purpose erythrol tetranitrate has proven of distinct service. Mannitol hexanitrate, by reason of its insolubility, is less serviceable. Methyl nitrate possesses no advantages over the erythrol compounds, and the sugar nitrates are too unstable for general use.

A NEW "MEDICAL JOURNAL."

A new "medical journal," that begins with the new year, is issued from a large "sanitarium" that has been unenviably noted for its quackish methods and brazen advertising. This is perhaps not in itself to be wondered at, but some surprise may be permitted at the fact that the initial number contains some advertisements from drug houses that stand well in professional regard. Can it be that the supply of drugs necessary to the conduct of this institution of unsavory reputation has been so tempting to the manufacturers that they readily yielded to the request for an advertisement of their products for this new disgrace to the name of medical journalism? In passing it may be noted that the sanitarium is "asceptic," concerning which it might perhaps in safety be remarked that one is necessarily nearly as skeptic of the morals of the institution as of the orthography of its officials. The publishers' announcement asserts: "We propose to have a Subscription of Fifty Thousand." It is not at all probable that nearly half the physicians in the United States will subscribe for the organ of an institution of this character, but it is quite in line with experience that 50,000 physicians should be made more or less unwilling recipients of this "medical journal."

STUDENTS AGAINST PROGRESS.

The students of the medical colleges of Cleveland, Ohio, or a portion of them, have organized to defeat the proposed law regulating the practice of medicine, which is supported by the profession of that state. In so doing they go beyond the Iowa students who would have only themselves exempted from a state examination, for they unselfishly (?) demand that neither they nor anyone else shall be examined, unless all present practitioners in the state shall go through the same mill. As there are legal and constitutional objections to this last, their position amounts simply to a demand that no medical reform shall succeed, and they place themselves on the level of the quacks who are fighting medical practice acts throughout the country. Making all the allowances for the average unwisdom of immature undergraduates, this is not a very pleasant matter for contemplation, and the more general the movement the worse the case. One is tempted to hope that young men who have no better ideals as to their chosen profession than to join forces with its outlaws, will never get into it, at least not until they have had the full benefit of an extra rigid state examination. Ohio would better, for its own sake, pass such a law at once, with an emergency clause attached.

ALCOHOLIC LIQUORS IN PRESCRIPTION.

The U. S. Commissioner of Internal Revenue has aided the temperance cause, it is hoped, by a recent decision. He decides that the prescription of any alcoholic liquors, uncompounded with a drug or remedy, subjects the prescriber to the special internal revenue tax as a retail liquor dealer. There are physicians whose principles or good nature have permitted them to help the thirsty to gratify their desires when the legalized public facilities are wanting. A physician in West Virginia, kept a drug store and dispensed liquors on his own prescriptions. His appeal to the revenue department from the local collector produced the decision above mentioned, and referred to in our "Medical News" columns, the 13th. The only effect of this decision will be to stop the prescribing of "straight" drinks, diluted or otherwise. It can be often enough evaded by the addition of some medicinal agent under the pretense of a prescription for disease, but if the spirit and intention of the law are strictly regarded by the authorities, this, it would seem possible, might occasionally cause some inconvenience to the complaisant prescriber. A doctor, however, who is willing to function as a stationary or perambulating "blind pig" will probably still continue his practices; the advantage of the decision is that it will call the attention of some careless individuals to the risks they run in accommodating some of their thirsty clients in dry places.

THE GENESIS OF ACUTE MILIARY TUBERCULOSIS.

According to Weigert, general miliary tuberculosis depends on a dissemination of tubercle germs in large numbers, due to an invasion in mass through a large vessel—the heart, or the thoracic duct. This theory is supported by the recent investigations of Benda[1], who carefully studied seventeen cases with this point in view. The points of invasion of the circulating blood were found by Benda as follows: Through the thoracic duct twelve times, the pulmonary veins four times, the endocardium once—once the mitral valve, and once the aortic—and the thoracic aorta once. In the majority of the cases the vascular foci contained extraordinarily numerous bacilli in heaps. The points of invasion are divisible into two classes: One, which is rare, is due to an erosion of a vessel from without of an extravascular caseous focus, the other, more frequent and present in all of Benda's cases, depends on

[1] Berlin Klin. Woch., 1899, Nos. 26, 27, 29.

single or multiple metastases on the vascular intima—a tuberculous endangitis—from which infection of the blood or lymph takes place through caseation and softening, and is followed by a general eruption of tubercles in various organs. That is to say, the general infection occurs in two stages: A few bacilli become implanted on the intima, and here produce a characteristic area in which the germs multiply freely, and then masses of bacilli are sooner or later thrown into the circulation. The primary, or intermediate, internal focus is located in the subendothelial connective tissue, and bounded externally by the inner elastic membrane. When the other coats of the vessel become involved it would be difficult, and sometimes quite impossible, to say where the lesion started, whether in the inner or the outer of the vascular tunics.

THE DIAGNOSIS OF TYPHOID.

Within the past year the bacteriologic diagnosis of typhoid has been enriched by several new methods, as noticed in the several departments of THE JOURNAL. That of Piorkowsky, by cultures from loops of the supported feces, using normal urine specially prepared with peptone and gelatin, has been confirmed by others, though as Wittich has shown, some further tests may be necessary to differentiate the colon bacillus.[1] More recently, however, Cesaris Demel has found that by using liver bouillon we can have an early means of differentiating the typhoid bacillus, and with the addition of litmus, also eleven other micro-organisms, including the colon and icteroid bacilli, and the cholera vibrio, by reactions characteristic of each[2]. With these methods, and especially the latter, we seem to have a valuable additional aid in the diagnosis of typhoid, and this with the possibility of detecting the change as early, according to Cesaris Demel, as the second day of the disease. The fact stated by Neufeld and by Curschmann[3], who confirmed Neufeld's findings, that the bacteriologic examination of tissues and blood from typhoid spots will reveal the bacillus, is also in point. It would seem probable from the recent observations of two English observers, Wright and Lamb[4], that the serum from these eruptions, while it affords cultures even earlier and more readily, will react differently from that from the general circulation in other parts of the body to the Widal test. According to their findings, the micro-organisms flourish especially in these typhoid spots, where the agglutinins found in the blood seem less active to impede their propagation and growth. Altogether our resources for the recognition of typhoid appear likely to be materially enlarged.

ENGLAND AND THE OPIUM TRADE.

The *British Medical Journal*, noticing a publication recently issued on the effects of opium as observed amongst the Chinese, criticises the opinion therein stated that the British Government is morally responsible for the opium habit in China, and that the trade is at once degrading and reprehensible. It says: "This may be all true, but it is not in accordance with the evidence laid before the recent inquiry on the opium habit conducted by a specially appointed Royal Commission." If it had said a part of the evidence, it would been more correct, for anyone who has read through the mass of published testimony must have been impressed with the fact that the official doctors and other officials and the government land farmers gave the testimony on which the findings of the commission were based, while the non-official doctors, native editors and missionaries, with a very few exceptions, testified to the direct opposite. The verdict of that commission was drawn up from the testimony of officials without regard to that from other quarters. The Burmese official testimony, moreover, was largely different from that of India, where the revenues are so largely dependent on the opium trade, and had the inquiry been extended to China, the results might have been still more strikingly different. The paragraph quoted from the publication referred to with so much disapproval, that "The day will come when the bulky report of the Commission will be looked upon as a costly and stupendous monument of sordid bias, special pleading, and outrageous discrepancy," may be chiefly offensive under the common-law rule, "the greater the truth the greater the libel." The rule of Great Britain over the inferior races has been in the main beneficial, but that is no reason why such a notable exception to the rule of righteousness as its course with the opium trade should be ignored or condoned.

COLORADO AND CONSUMPTION.

In a report submitted to a tuberculosis conference, held in Denver, Dec. 23, 1899, Dr. Tyler, secretary of the Colorado State Board of Health, gave statistics relating to deaths from consumption in Denver for the six years, 1893-98, which are worthy of consideration. While these showed only a moderate increase in the total of deaths from this cause, the percentage of cases contracted in Colorado advanced steadily from 11.26 in 1893 to 19.77 in 1898. These figures are given as indicating that pulmonary tuberculosis is increasing in that state. Quoting from the report: "This steady increase of the number of deaths from tuberculosis contracted within Colorado is sufficient to merit the earnest attention of all who are in any way interested in the prevention of the disease." The figures from this single locality are significant and suggestive, though not conclusive, but these do not seem quite as alarming as they might appear at first sight. They simply show that to keep up the average of deaths, a larger number of native cases is required, and since a large proportion of the Colorado population were originally "one lungers," it can afford an increasing proportion of presumably more or less hereditarily predisposed subjects. This is one way of looking at the facts, though it must be admitted that without a larger number of details, not here given, its absolute correctness can not be guaranteed. The population of Denver and Colorado is presumably increasing steadily, and there is hardly any better evidence to be had that the climate is salutary for tuberculous diseases than the fact that the death-rate from such does not, with the constant influx of infected individuals, very materially increase. That there is an increase of locally originating cases—admitting it [illegible]

[1] THE JOURNAL, xxxiii, p. 1514. [2] Ibid. January 6, p. 34.
[3] Ibid. xxxiii, p. 1652. [4] British Med. Jour., Dec. 23, 1899.

tively proven such—does not, considering the undoubtedly abundant chances for infection, materially affect the case. However we may value his text, Dr. Tyler's recommendations are correct and sensible, according to the present standards of belief in regard to the communicability of tuberculosis, and he sensibly refrains from recommending the exclusion of consumptives from the climatic advantages of Colorado.

STATE CARE OF EPILEPTICS.

Like many another great project, state provision for the epileptic moves slowly. The five states, Ohio, New York, Massachusetts, New Jersey and Texas, are the only ones that have really furnished state care for their several epileptic populations. Many other states are outlining their needs for colonies for epileptics and are urging legislative action. The colonization of these in America, the scheme apparently meeting with most success, was first agitated by Dr. Frederick Peterson of New York, in 1887. Dr. Peterson's inspiration in the matter was largely drawn from the successful Bethel Colony for Epileptics, Bielefield, Germany, where some 1500 are now grouped together on the village or colony plan. Mr. Letchworth[1] sets forth the essential principles urged by those engaged in colonizing epileptics, which is to provide an ample acreage for the prospective village, centrally located in the state, in which small homes may be built for its inhabitants and where all the industrial and educational lines may be fully carried out. As we now have a national association for the care and treatment of this class, the colonization where they may be kept under scientific study will render the society's meetings profitable to both the scientist and the philanthropist. THE JOURNAL has always been in sympathy with those endeavoring to ameliorate the unfortunate condition of the epileptic, and trusts that the time may speedily arrive when every state will provide separate institutions for its dependent epileptics.

VASOMOTOR ALBUMINURIA.

It is a fair question whether renal albuminuria can ever be considered a normal manifestation. If the answer be in the negative, the condition must be considered an indication of disease, however slight and transient. Disease is best defined as a deviation from the normal, in function or structure, or both. In fact, there can be no abnormity in function without alteration in structure, although this may be beyond our means of recognition. Unless, therefore, albuminuria be a normal phenomenon, it can scarcely be designated "physiologic." It is fair to assume that albuminuria occurs essentially as the result of disease in the epithelium of the uriniferous tubules, and this may be due, among other things, to alterations in the vascular pressure in the kidneys, sometimes increase, sometimes diminution, and at different times fluctuations between the two. These alterations must, in the absence of gross organic disease, eventually be referred to the vasomotor system, and the condition would then fit into the group of disorders comprehended by S. Solis-Cohen in the designation, "vasomotor ataxia." Such albuminuria as is now under consideration has been observed in the sequence of muscular exertion in neurotic individuals and neurotic states, after the ingestion of food, and sometimes in the absence of discernible cause. To these varieties Hawkins[1] adds another that he describes as postural albuminuria, in which the albumin appears in the urine on arising, standing up and moving about after a period of rest in the recumbent posture. This has been observed most commonly in young persons, and apparently in males more often than in females. It is usually discovered accidentally. The albumin does not appear in the urine passed immediately on arising from bed in the morning, but in that passed after breakfast. Sometimes it is present also after the midday meal, and it is nearly always present in the evening. The amount of albumin is generally small, and hyaline casts are occasionally found. The general health is good, and there is no evidence of disease of the heart or arteries. Several cases may be observed in the same family. The prognosis in all varieties of vasomotor albuminuria should not be too sanguine, as long persistence and frequent repetition of the condition may predispose, if it do not actually give rise, to textural alterations. The treatment should be essentially prophylactic and hygienic, and directed to the maintenance of the general health, with especial reference to the preservation of vascular stability.

THE POLAR REGIONS AS HEALTH RESORTS.

It has been proposed, by an English journal, to establish a sanatorium in Spitzbergen, to take advantage of the germ-free atmosphere of that high latitude. The experience of Nansen, who found an absence of microbes in the farthest north, has suggested this to some active-minded sanitarians. It is a pity that the suggestion is not a more practical one. Germ-free air is not the one essential to health, and the climate of the North Pole has its drawbacks in spite of its aseptic advantages. A short summer sojourn at Spitzbergen would have attraction for a very limited class of individuals, and its therapeutic value might be even more restricted, allowing it to exist at all for a few. As a winter resort, the polar regions are out of the question, though it is in the winter especially that they are most free from microbic life. Dr. F. A. Cook, in a recent magazine article, has graphically described the effects of a winter sojourn in the Antarctic ice, and has given a new and descriptive name—"polar anemia"—to the syndrome produced by it in that supremely aseptic climate and region. One of the officers of the expedition to which Dr. Cook was attached succumbed to this disorder, induced by the long darkness, monotony, and intense cold, which affect both mind and body. Another objection to the northern climate is the fact that those who apparently endure it will often suffer on their return to more temperate latitudes; it is very far from building up an immunity to microbic diseases; on the other hand, it seems to render the system more liable to them. Arctic exposure, though it may be comparatively well endured at the time, is apt to be followed later by various disorders, as rheumatism, bronchitis, tuberculosis, etc., and prominent explorers like Sherard Osborn and others

[1] Letchworth, Wm. Pryor: Care and Treatment of Epileptics, 1900.

[1] British Med. Jour., Dec. 9, 1899, p. 1593; THE JOURNAL, Dec. 30, 1899, p. 1651.

have insisted on this point in advising as to the selection of men for northern expeditions. The fact that a man has had experience was in their opinion rather a drawback than otherwise. The utility of an arctic sanatorium if such a one is ever seriously proposed, would therefore appear to be limited. It appears to be a fact that where pathogenic germs can not exist, other life is also difficult if not impossible, and, such being the case, we will have to make the best of it. The polar regions, the Sahara, and other lifeless tracts will have to offer other claims than their heathfulness to render them attractive.

TUMORS OF THE HEART.

Primary tumors of the heart are among the rarest of neoplasms. Some years ago Berthenson collected some thirty cases from the literature; the majority were sarcomas, and most of them occurred in some part of the auricles, which seem the most susceptible parts of the heart to primary tumor growth. The right ventricle may be said to be the least susceptible part. Primary sarcomas of the heart very rarely produce metastases; in fact, metastasis was not recorded until recently, when Geibel[1] observed a secondary growth in the wall of the right ventricle following an undoubted primary, round-cell sarcoma originating in the endocardium of the right auricle—interauricular septum. This tumor constituted an accidental finding in a post-mortem on a woman, 53 years old. The tumor filled over half the cavity of the auricle, but nevertheless there were no symptoms of obstruction in the large veins. The absence of definite symptoms under such conditions is attributable to the gradual growth of the tumor, which gave the circulatory apparatus good time to adapt itself to the new conditions. It is rather difficult to establish, with absolute certainty, the primary nature of a tumor like this. It is necessary to exclude all other possibly primary growths in all parts of the body, including the skeleton; it must be clearly made out that no tumors or growths of any kind have been removed by surgical operation, etc. Geibel seems to show conclusively that his tumor was primary. Metastatic tumors in the myocardium are not of such unusual occurrence; they are usually associated with numerous secondary growths in other organs, naturally they may be either of sarcomatous or carcinomatous nature; among the carcinomas, those of the esophagus are the most frequent source of the metastasis, which is due to extension and invasion of some of the veins along which carcinomatous emboli are conveyed to the heart; at other times the heart may become involved by direct extension of the tumor growth. Geibel mentions a case of this kind in which a communication was established between the lumen of the esophagus and the left auricular cavity.

SOME DISORDERS OF THE SENSE OF SMELL.

While one would naturally expect individual variations in the acuity of the olfactory sense, it appears that noteworthy alterations in this function, other than as a result of local disease of the nares, are uncommon, but this may be because close attention has not generally been directed to clinical investigations of the subject. It is conceivable that the peripheral filaments of the olfactory nerve may become the seat of an inflammatory process of varied origin with impairment of the sense of smell; and the same result might be brought about by lesions in the course of the olfactory tract, from the bulb to the as yet unlocated cortical center, such as inflammation, hemorrhage, softening, new-growths, hydrocephalus, laceration, concussion, aneurysm. The situation of the tract at the base of the brain would seem to make it peculiarly susceptible to the operation of such lesions. Infectious processes and toxic influences might also expend their activities in part on the olfactory apparatus. Olfactory hallucinations have been observed in cases of disease of the brain and disorders of the mind. Loss of the sense of smell—anosmia—may be congenital or acquired, unilateral or bilateral. The congenital variety has been observed in idiots, and also in otherwise apparently healthy individuals. The disorder may even be hereditary. In a recent communication, Placzek[1] reports a case of what he believes to be a case of congenital, absolute, bilateral anosmia, occurring in a woman, 60 years old, who had no recollection of ever having experienced the sensation of smell, the perception of odors, but who, strangely, was conscious of her deficiency, and had an intense longing for the exercise of this function. Sensory irritation was appreciated when pungent substances were applied to the nares, but there was no suggestion of smell. There was no evidence and no history of nasal disease, no knowledge of any causative condition, and no other symptom of disease of the nervous system. The derangement is attributed to defective development in the neighborhood of the cornu Ammonis, as this region is said to be frequently found sclerotic on post-mortem examination, and it is believed to constitute a portion of the olfactory center. It is thought there may be also associated atrophy of the olfactory tracts.

CIRRHOSIS OF THE LIVER IN EARLY LIFE.

Although alcoholism is considered the most potent

[1] Cbl. f. Path. u. Path. Anat., 1899, x, 845.

currence of the two varieties of cirrhosis of the liver, the portal and the biliary, the structures involved in the hyperplastic process depending on the channel through which the irritant is conveyed. Cirrhosis of the liver is not an infectious disease, but it does not require any great stretch of the imagination to believe that the toxic substances generated in the course of various infectious processes may possibly, in a predisposed individual, inaugurate, if they do not maintain the hyperplastic process. It may be conceived, further, that the irritant products of gastro-intestinal activity—or inactivity—may act in somewhat the same manner. In one or another of these mechanisms may possibly be found the explanation for some cases of cirrhosis of the liver whose origin can not be traced to the usual, or other, etiologic influences. Some such explanation is needed for the cases of cirrhosis of the liver of obscure origin, that occur in young persons for instance. A case reported recently by Abrahams, before the New York County Medical Association, may be considered as unique in this connection. The patient was a child, 16 months old, who within three months had lost appetite, become pallid, was constipated, and exhibited enlargement of the abdomen; there was no jaundice, and there had been no hemorrhage. The abdominal distension was found to be due to an accumulation of fluid in the peritoneal cavity, and this prevented a determination of the size of the liver and the spleen. There was no edema of the lower extremities, and no derangement of micturition; nor was there any evidence of syphilis. By exclusion, a diagnosis of cirrhosis of the liver was made, and on inquiry it was learned that from an early period in life the child had been permitted to drink beer rather frequently. After paracentesis, the liver was found to be enlarged, hard and smooth, and the fluid did not return.

PRIMARY SARCOMA OF THE PROSTATE.

There are only about thirty instances of primary sarcoma of the prostate gland recorded, the majority being collected in the inaugural dissertation of Gratzer, of 1895. Recently Schalek[1] described an additional case from Chiari's laboratory in Prague; it concerned a boy 3¼ years old. In looking over the material at hand, one is at once impressed with the relative frequency of this localization of sarcoma in early life. Four times the patients were less than 1, and seven were less than 10 years old; the remainder being scattered along in the various decennial periods up to the age of 70. Among the more prominent and frequent symptoms may be mentioned the presence of an irregular or rounded tumor of varying size, between the bladder and the rectum, which produces on the one hand urinary disturbances, at times total obstruction, at times increased frequency, catheterization being often difficult, if not impossible, and often productive of hemorrhage; the tumor is tender, often spontaneously painful, the pain being referred to the root of the penis; on the other hand there may be symptoms pointing to the rectum, and occasionally there has been noted total obstruction of the lower bowel. In one case paralysis of the lower extremities developed. Dilatation of the bladder, which may be pushed to one side, and cystitis, may occur. The size of the tumor may reach that of a child's head; in one case it weighed 1570 grammes, in another case it is described as colossal in size. The growth has often filled the pelvis. In its further growth the tumor may involve, by continous extension, the walls of the urinary bladder, the rectum, the urethra, and it may cause protrusion of the perineum. Hydronephrosis, pyelonephritis, peritonitis have been observed as more remote consequences. Metastases have been noted in the peritoneum, the mesenteric, inguinal and retroperitoneal lymphatic glands, in the kidney, adrenal, lungs, brain and humerus. Sarcoma of the prostate does not seem to have such a marked tendency to osseous metastasis as does prostatic carcinoma. Histologically various types of sarcoma are represented, such as spindle—and round-celled tumors—the most frequent, lymphosarcoma, angio-sarcoma, myosarcoma, and polymorphous forms. The clinical course seems to be a decidedly rapid one from the time that symptoms are first noticed and so far operation has terminated disastrously in every instance.

[1] Prag. Med. Woch., 1896, Nos. 43 and 44.

THE ANTIVIVISECTION BILL AGAIN.

The Senate Committee on the District of Columbia will hear arguments for and against the Gallinger antivivisection bill on some day in February, the exact date not given. We may assume it as certain that the zoöphiles will be there in force, with all the documentary support they can command, to reinforce their personal efforts. It is not too late to ask all physicians, medical societies and organizations that have not yet spoken to exert their influence by resolutions, memorials and direct individual work against the bill. Its possibilities for evil have been well pointed out in the medical press, but it is essential that the committee be collectively and individually enlightened. Whoever, therefore, like Dr. R. T. Morris, whose communication has already been noticed in THE JOURNAL, can give his personal testimony as to the value of animal experiments should do so at once. Society resolutions and memorials are good, and we are not likely to have too many of them, but personal influence, arguments, and facts are no less essential. It is to be hoped that no needed efforts will be spared to defeat the bill.

Medical News.

DR. JAMES A. KELLY has been reappointed county physician for South Omaha, Neb.

A NEW monthly, the *Seaboard Med. and Surg. Jour.*, Norfolk, Va., began publication this month.

PHYSICIANS of Muncie, Ind., have organized an association for the protection of its members against "chronic dead beats."

BY THE will of the late Robert B. Brigham, $2,500,000 is given for the founding and endowment of a hospital for incurables, in Boston.

DR. LEON L. SOLOMON, Louisville, Ky., Chairman of the Section on Materia Medica of the AMERICAN MEDICAL ASSOCIATION, returned from Europe January 1.

JUDGE ADAMS, of the United States Circuit Court, recently sustained the Missouri state law in regard to the prohibition of the sale of oleomargarin as butter.

A MEETING of the Michigan State Medical Board will be held in Lansing, January 22, at which time the issuing of certificates to physicians will be commenced.

DR. M. COURET, New Orleans, La., has been appointed assistant pathologist of the Charity Hospital, to succeed Dr. S. F. Mioton, who has resigned to assume the position of assistant coroner.

THE BOARD of Managers of the New Jersey Hospital for the Insane, near Trenton, in its recent report to the governor, states that the hospital now cares for 1170 patients, a number largely in excess of its capacity.

A NUMBER of medical practitioners of the Straits Settlements have offered to guarantee a prize of 25 guineas to he University of Edinburgh, for special researches in tropical medicine. The prize is open to students or graduates of medicine of not more than two years' standing.

COLUMBUS DRAKE, the oldest resident of Monmouth County, N. J., died on January 12th, at his home near Matawan. He was 100 years and 11 days old, having been born in Ireland, Jan. 1, 1799. He was never married, and lived with a sister who is said to be nearly 100 years of age.

THE SILVER jubilee number of the *Deutsche Medicinische Wochenschrift,* just received, contains reviews of the last quarter-century in surgery, hygiene, etc., each written by a leading specialist, eight in all, Czerny, Fluegge, von Leyden, etc., illustrated with twenty fine portraits of Germans who have contributed most to the progress of the medical sciences during this period, with Lister, Darwyn and others.

THE COMPETITIVE examination for internes at Paris, which was arrested by the destruction of the papers still unexamined, mentioned in THE JOURNAL of Dec. 23, 1899, will proceed by awarding the percentage of positions proportionate to the number of papers examined before the outrage, the perpetrators of which are still unknown. The rest will undergo another examination for the ten places remaining.

BOURNEVILLE comments, in an editorial in the *Progrès Méd.,* on the action of the police of England in seizing, Dec. 19, 1899, all the copies of the translation of C. Féré's "Pathology of the Emotions" and the second volume of Havelock Ellis' "Studies in the Psychology of Sex:" "we are awaiting with interest the opinion of the English medical press on this strange measure which we should have thought impossible at our epoch."

WHEN THE Dreyfus case was in progress, one of the smaller Paris dailies insinuated that Labori had not been shot at all, and that the whole story of the shooting and the bullet were fabricated to arouse sympathy for the Dreyfus side. Labori sued the paper for damages, and nearly a dozen physicians testified in regard to the actual accident. Even a radiograph of the bullet was produced. It is unnecessary to add that Labori won his case.

THE NEWLY organized medical club of Paris issues special cards of membership to out-of-town and foreign medical men visiting Paris. These entitle them to all the numerous privileges of the club during their stay. A special department has been organized to secure rooms for physicians during the exposition and supply information of all kinds. Dr. Doléris, 5, avenue de l'Opera, is the secretary. The club has the advantage of the quarters of the *Cercle National.*

A CHICAGO alderman proposes a law that will strike terror to the hearts of hold-up men, foot-pads, burglars and criminals generally. His proposition is to give a reward of $200 for the killing of burglars, etc., by any officer or citizen. The report says that the alderman in question is a devoted church member, and we presume he is. From a medical standpoint the proposition is of interest as an example of male hysteria under certain conditions. A reward for burglar scalps does not look very well in these days and the very thought of such a thing is not a good commentary on the morals of a city that would even suggest this in the last year of the nineteenth century.

ANTIALCOHOL SERUM.—According to *Progrès Méd.,* Broca, Sapelier and Thibaut announced at the meeting of the Paris Acad. de Méd., Dec. 27, 1899, that they had succeeded in obtaining a serum from a horse habituated to the use of alcohol that, injected into animals with a cultivated appetite for alcohol, produced such a disgust for it that they would neither eat nor drink if it were offered them. Clinical tests confirmed this experience. The action of the serum seems restricted to the latent period of chronic alcohol intoxication. The subject loses his appetite for alcohol or any beverage containing it, and may even acquire a disgust for it and renewed susceptibility to its effects. He retains his taste for *wine,* the Frenchmen are careful to add, and retains strength and appetite, but the serum is unable to repair the organic damages already inflicted.

COLLEGES OPPOSE MEDICAL COUNCIL.—At a recent meeting of the presidents of the various colleges of Pennsylvania, the resolution in regard to the recent ruling of the Medical Council, providing that all students would be required to take a four years' course in medicine whether they had previously taken advanced work or not, was considered at some length. Considerable opposition was found to exist to this ruling, and a resolution adopted by the Association of College Presidents of Pennsylvania heartily sympathizes with all efforts to raise the standards in the medical profession, but they are unanimously of the opinion that no harm has been done in this respect by admitting to the second year in medicine men who have taken their bachelor's degree in reputable colleges, and who, during their undergraduate course, have taken work equivalent to that required in the first year of our best medical colleges. A committee has been appointed to confer with the Medical Council in order that the resolutions passed may be rescinded.

The following makes a pleasant chalybeate tonic:

℞. Tinct. ferri chloridi ..... ʒiii
Acidi phosphorici dil ..... ʒvi
Glycerini ..... ʒvii
Vini xerici ..... ℥iv

M. Sig. Teaspoonful four times a day.

The following prescriptions have been employed by eminent clinicians, in the various stages of scarlet fever:

℞. Acidi borici ..... ʒss.
Potassii chloratis ..... ʒii
Tinct. ferri chloridi ..... ʒii
Glycerini
Syr. simplicis, āā ..... ℥i
Aquæ ..... ℥ii

M. Sig. Teaspoonful every two hours for a child of 5 years.
—*Smith.*

Begin treatment with the administration of calomel; then give throughout the disease:

℞. Chloralis ..... gr. xxx
Syr. lactucarii
Aquæ, āā ..... ℥ss. to i

M. Sig. Teaspoonful in ice-water every two or three hours. Complete narcotism should never be attained.
—*Wilson.*

Illingworth considers the following a specific and prophylactic:

℞. Liq. hydrarg. bichloridi (1 to 5000) ..... ʒiii
Potassii iodidi ..... gr. x
Ferri et ammonii citratis ..... gr. xx
Syrupi ..... ℥ss.
Aquæ, q. s., ad ..... ℥ii

M. Sig. Teaspoonful every two hours to a child of from 2 to 4 years.

DISINFECTANT.

For the purpose of disinfecting the sick-room J. Lewis Smith highly recommends volatilization of the following mixture in boiling water:

℞. Acidi carbolici
Olei eucalypti, āā ..... ℥i
Olei terebinthinæ ..... ℥vi

M. Sig. A tablespoonful to be added from time to time to a pan of hot water, to be kept boiling on a gas stove.

FOR ANOINTING THE BODY.

℞. Acidi carbolici
Olei eucalypti, āā ..... ʒi
Olei olivæ ..... ℥vii

M. Sig. For inunction every three hours.

℞. Thymol ..... gr. x
Olei theobromæ ..... ℥i
Alcohol, q. s.

Ft. solutio. Sig. For inunction twice or three times a day.
—*Smith.*

℞. Acidi carbolici ..... gr. xx
Thymol ..... gr. x
Petrolati vel Ung. Simp ..... ℥i

M. Sig. Rub in well.
—*Starr.*

When desquamation begins, to shorten this stage:

℞. Resorcin ..... 5 parts
Salicylic acid ..... 5 parts
Superfatted soap ..... 100 parts

M. Sig. Apply locally.

℞. Hydrarg. bichloridi ..... 1 part
Aquæ ..... 1000 parts

M. Sig. As a wash for the surface, especially during desquamation.

℞. Ichthyol ..... 5 parts
Unguenti ..... 100 parts

M. Sig. Apply to produce decline of fever, and for beneficial effect on skin.
—*Seibert.*

Internal Hemostatics.

F. Pick, of the University of Prague, publishes in the *Archiv. f. Exper. Path. u. Pharm.*, the results of an extended series of experiments on animals as follows:

1. Curare does not affect the vasomotor filaments appreciably in small doses, but causes a drop in constrictor tone when given in larger amounts.

2. Chloroform, after an evanescent rise in blood-pressure, produces a deep depression accompanied by a diminished outflow from the peripheral veins and a corresponding increase in that from the jugulars and mesenterics. Narcosis by this agent, therefore, involves abdominal and cerebral vasodilation, this being the result of action on the vasomotor center. The reduction in the force of the heart may also in some measure explain the diminished outflow.

3. Ether in narcotic amounts does not markedly depress blood-pressure, but otherwise the effect on the venous bleeding is the same.

4. Atropin, in the earlier stages of its action, checks the outflow from the jugulars and the femorals, though its effect on the latter is the greater. Strong faradic stimulation of the peripheral stump of the vagus is ineffectual in producing contraction of the vessels after the administration of large amounts, but dilatation follows cessation of the stimulus. Therefore it is concluded that in these amounts the drug induces paralysis of the peripheral vasoconstrictor fibers.

5. Digitalin, helleborin, and strophanthin all reduce the outflow from the femorals, acting on the mesenterics and jugulars to a less extent. The digitalis group may therefore be regarded as vasoconstrictors in addition to their cardiac effect.

6. Ergotin in non-pregnant animals caused no rise in blood-pressure, and seemed to have no value as a vasoconstricting agent.

7. Hydrastinin decreases the escaping blood-volume to a very marked degree, influencing especially the vessels at the periphery, but also notably affecting the jugulars and mesenteric areas.

8. Beta-tetra-hydro-naphtylamin produces a peripheral rise in pressure, but at the same time cuts down the outflow. The bleeding is not affected by stimulation of the peripheral stump of the cut sciatic, but an increase follows the cessation of the stimulation.

9. Barium chlorid, while checking the outflow from the peripheral and mesenteric veins, increases it from the jugulars and causes an enormous rise in blood-pressure.

10. Nicotin and piperidin raise blood-pressure, but check hemorrhage through vasoconstriction of peripheral origin.

11. Amyl nitrite produces a general vasodilatation, which is the result of local action on the vessels, and is independent of central control.

12. Carbonic acid produces a localized dilatation of the cerebral vessels, accompanied by a decrease in the bleeding from the mesenterics and femorals, but an increase in the outflow from the jugulars.

13. Peptone lowers blood-pressure and dilates the vessels of the abdomen, but not those of the periphery.

14. Adrenal extract raises the general pressure, but causes an accompanying vasoconstriction and well-marked decrease in the amount of outflow.

As a remedy for practical application in cases of internal hemorrhage, ergotin would seem of doubtful value, but the use of both hydrastinin and atropin appears to be justified by the experimental evidence.

Guaiacol As a Diagnostic Agent.

Guaiacol is recommended by Moncorvo, according to *Merck's Archives*, as affording a valuable aid to the differential diagnosis between intermittent fever and tuberculosis. The diagnosis of acute and subacute tubercular fever in children is never easy, but the difficulties are greatly increased in the tropics, where malarial infection must also be thought of. Thus, in Rio de Janeiro, the author found malaria associated with tuberculosis in 113 out of 219 cases of the latter. Where doubt exists as to the true character of the trouble, local applications of guaiacol to the skin are advised. In malarial cases no effect is produced, but if the fever is of tubercular origin a very prompt drop in the temperature follows. This differential reaction has been found of greater service in diagnosis, and also gives valuable indications where the two affections occur simultaneously.

Sublimate and Quinin Phenate in Puerperal Infection.

The Italians are developing this endovenous method of treatment, and Zamboni reports in the *Gazz. delgi Osp.*, November, two cases of puerperal infection apparently doomed, both promptly relieved and cured with alternate endovenous injections of sublimate and quinin phenate.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 13.

1.—*President's Address before Society of Alumni of Bellevue Hospital. Charles E. Quimby.
2.—*Taking Cold. Green V. Woolen.
3.—*Therapeutic Application of Carbonic Acid Gas. A. Rose.
4.—*Anesthetic Properties of Nirvanin. A Contribution to the Study of the Infiltration Method of Local Anesthesia. Charles A. Elsberg.
5.— Second Report on Therapeutics of Heroin. Morris Manges.
6.—*Echinacæ Angustifolia; A New and Successful Aphrodisiac for Impotence, Pseudoimpotence, etc. J. Coplin Stinson.
7.—*The Lung Reflex. Albert Abrams.

Philadelphia Medical Journal, January 13.

8.—*Excretion in Acute Infectious Diseases. H. A. McCallum.
9.—*Cerebral Rheumatism. Francis P. Morgan.
10.—*Diplococci—A Cause of Erysipelas. G. E. Pfahler.
11.—*Certain Essential Points in Technic of Staining Nerve-Cells. Stuart Paton.
12.—*Varicose Veins of Vulva. William Edgar Darnall.
13.—*Anatomic Relations in Pelvic Hematoma Following Labor. W. Reynolds Wilson.

Boston Medical and Surgical Journal, January 11.

14.—*Case of Perforating Gastric Ulcer; Operation; Recovery; With Remarks on Surgery of Gastric Ulcer. F. B. Lund.
15.—*Case Method of Teaching Systematic Medicine. W. B. Cannon.
16.— Case of Relapsing Fever. George O. Ward.
17.— Treatment of Pain in Tabes Dorsalis; Report of Case. Alfred H. Lindstrom.
18.— Pistol Wound of the Abdomen. C. A. Atwood.

Medical Record (N. Y.), January 13.

19.—*Relative Intensity of Second Sounds at Base of the Heart; a Study of One Thousand Cases. Sarah Robinson Creighton.
20.—*Acquired Non-Malignant Stricture of Rectum; Causes, Symptoms, and Treatment. W. Duff Bullard.
21.—*Post-Partum Hemorrhage, Its Prevention and Treatment, with Report of an Unusual Case. Edward P. Davis.
22.—*Question of Legal Control of Prostitution in America. S. Lustgarten.

Medical News (N. Y.), January 13.

23.— Gonorrhea; Its Dangers to Society. Albert Neisser.
24.—*Experimental Tests at Vera Cruz, Mexico, of the Doty-Fitzpatrick Serum for the Prevention and Cure of Yellow Fever. A. Matienzo.
25.—*Report of Case of Scorbutus in an Infant. Walter Lester Carr.
26.— Myomectomy per Vaginam Combined with Shortening the Round Ligaments for Retroversion, etc. J. Riddle Goffe.

Cincinnati Lancet-Clinic, January 13.

27.—*Ophthalmic Memoranda. David DeBeck.
28.— Cesarean Section. John A. Graft.

Medical Review (St. Louis, Mo.), January 13.

29.— On Some Rare Causes of Insomnia. H. Oppenheimer.

Columbus Medical Journal, Dec. 20, 1899.

30.— Diagnosis and Treatment of Diphtheria. T. W. Rankin.
31.— Elimination, Relation to Production of Disease. W. S. Philips.
32.— Diagnosis of Smallpox. C. O. Probst.
33.— Clinical Lecture; Case of Chronic Interstitial Nephritis. Wm. Osler.

Virginia Medical Semi-Monthly (Richmond), Dec. 22, 1899.

34.—*Hematocele—Studied with Reference to Pathogenesis and Treatments. Geo. Tucker Harrison.
35.—*Advertising in the Medical Profession. Charles T. McClintock.
36.— Different Phases of Electric Treatment. J. McFadden Gaston.
37.— Report of Case of Hemoglobinuria, with Remarks. John R. Hicks.
38.—*Beef-Gall Enemata in Treatment of Post-Operative Obstinate Constipation and Intestinal Obstruction. F. C. Ameiss.
39.—*Splenectomy with Report of Two Cases. J. Wesley Bovée.
40.— Experience in Operations for Typhoid Perforation. Hugh M. Taylor.
41.— Eye and Ear Work in the London Hospitals. E. Oliver Belt.
42.— Coffee Grain in Bronchus for Two Months; Tracheotomy; Successful. E. W. Row.

Pediatrics (N. Y.), January 1.

43.—*Hydriatic Measures in Management of Febrile Disorders of Infancy and Childhood. Simon Baruch.
44.— Case of Interstitial Emphysema. Max Girsdansky.
45.—*Complications of Diphtheria. I. A. Abt.
46.— Double Paralytic Varus from Peripheral Neuritis. Henry Ling Taylor.

Journal of Experimental Medicine, September-November, 1899.

47.—*Experimental Investigation of the Treatment of Wounds of the Heart by Means of Suture of the Heart Muscle. Charles A. Elsberg.
48.—*Case of Acute Endocarditis Caused by Micrococcus Zymogenes (Nov. Spec.), with a Description of the Micro-organism. William G. MacCallum and Thomas W. Hastings.
49.—*Study of the Neurone Theory. Martin H. Fischer.
50.—*Contribution to Subjects of Chronic Interstitial Nephritis and Arteritis in the Young, and Family Nephritis; with a Note on Calcification in the Liver. N. E. Brill and E. Libman.
51.—*Lymphoma, a Benign Tumor Representing a Lymph Gland in Structure. E. R. LeCount.
52.—*Observations Concerning Leukemic Lesions of the Skin. Horst Oertel.
53.—*Case of Addison's Disease with Simple Atrophy of Adrenals. Carlin Philips.
54.— Peculiar Form of Fibrosarcoma of Brain. Alice Hamilton.
55.— Differentiation and Classification of Water Bacteria. George W. Fuller and George A. Johnson.
56.—*Bacillus Pyocyaneus and Its Pigments. Edwin O. Jordan.
57.— Preliminary Note on Fractional Precipitation of Globulin and Albumin of Normal Horse's Serum and Diphtheric Antitoxic Serum and Antitoxic Strength of Precipitates. James P. Atkinson.

Annals of Surgery (Philadelphia), December, 1899.

58.—*Differentiation of Urines. F. Tilden Brown.
59.—*Mechanism of Fracture of Neck of Radius. Eugene R. Corson.
60.—*Properitoneal and Interstitial Inguinal Hernia. Van Buren Knott.
61.—*Proper Wire for Introduction into Aneurysmal Sac. James C. Reeve, Jr.
62.—*Nitrous Oxid and Ether Anesthesia by the Open Method. Albert H. Miller.
63.—*Note on the Operative Relief of Ectopic Vesica. David Edward Mundell.
64.—*Persistent Thyroglossal Duct. George E. Armstrong.
65.—*Actinomycosis in Man, with Special Reference to Cases which have been Observed in America. John Ruhräh.

Journal of Boston Society of Medical Sciences, December, 1899.

66.— Malformations of the Kidneys. W. F. Whitney.
67.— Remarkable Skulls. Thomas Dwight.
68.— Experiments on Saprolegnia Ferax (?), and Their Application to the Trout Hatchery. J. H. Cunningham, Jr.

Archives of Pediatrics (N. Y.), January.

69.—*Clinical Study of Laboratory Milk in Substitute Feeding. Louis Starr.
70.—*Cerebrospinal Symptoms in Influenza in Infancy. T. S. Westcott.
71.— Case of Fracture of Pelvis with Rupture of Urethra. J. B. Bissell.
72.— Clinical Lecture on Scarlet Fever, Bednar's Aphthæ, Geographic Tongue, Meningocele and Dermoid. A. Jacobi.

Illinois Medical Journal (Springfield), January.

73.— Some Remarks on Chronic Bright's Disease. Arthur R. Elliott.
74.—*Movable Kidney. A. E. Halstead.
75.— Psychology vs. Medicine. J. T. McAnally.
76.—*Report of Cases in Gall-Bladder Surgery and Their Sequelæ. J. E. Allaben.
77.— Desirable Sanitary Measures for Smaller Cities. Louis E. Fischer.
78.— Medical Organization. James Tweddale.

Post-Graduate (N. Y.), December, 1899.

79.— Concerning Convergent Strabismus. D. B. St. John Roosa.
80.—*Clinical Lecture on Hysteric Blindness. William Oliver Moore.
81.— Latent Squint. Francis Valk.
82.— Cases of Unusual Interest in the Eye Clinic. Edward S. Peck.
83.—*Purulent Ophthalmia in Private Practice. Frank Van Fleet.
84.— Report of Case of Small-Round-Cell Sarcoma of Orbit and Neighboring Sinuses in a Child; Metastasis, Exhaustion, Death. A. Edward Davis.
85.—*Myopia and Myopic Astigmatism, Notes on Treatment. Edgar S. Thomson.
86.— Brief Résumé of Some Eye Injuries. James R. Nelson.
87.— Ocular Reflex Neurosis (Abdominal Types). S. W. S. Toms.

The American X-Ray Journal (St. Louis, Mo.), January.

88.— Excitation of Crookes' Tube by Static Machine. John T. Pitkin.
89.— Fluorescent Lead: Some Observations in Radiography. Alex L. Hodgdon.
90.— Roentgen Rays in Military Surgery. John Hall-Edwards.
91.— Roentgen Rays in Spina Bifida. Carl Beck.

St. Paul Medical Journal, December, 1899.

92.— Tumors of Breast. Charles L. Scudder.
93.—*Major Operations with Ethyl Chlorid and Primary Chloroform-Inhalation-Anesthesia. Oscar Bloch.
94.— On a Certain Lack of Mechanical Facility in Surgeons. J. G. Mumford.

Journal of Mississippi State Medical Association (Biloxi), January.

95.— Sanitation and Isolation as a Means of Prevention and Eradication of Yellow Fever. J. A. Tabor.
96.— Gonorrheal Infection of Puerperal Woman; Report of Case. M. J. Lowery.
97.— Placenta Previa. W. W. Robertson.

Memphis Lancet (Tenn), January.

98.—*Report of Four Months' Service in Internal Medicine at St. Joseph's Hospital, Memphis. Wm. Krauss.
99.—*Modern Treatment of Face Presentations. Gustav Kollecker.
100.—Physician as a Factor in Spread of Contagious Diseases. P. S. Raymond.
101.—*Some Remarks on Diseases of Eye, Ear, Nose and Throat in the Negro. E. C. Ellett.
102.—Recurrence of Typhoid Fever, with Report of Case. L. L. Meyer.

St. Louis Clinique, January.

103.— Case of Error of Refraction Complicated with Marked Esophoria Producing Persistent Asthenopia. A. C. Corr.
104.— Diet in Lithemia. A. B. Conklin.
105.— Ear, Nose and Throat. Oscar F. Baerner.

Providence Medical Journal (R. I.), January.

106.—*Nerve Grafting. Frank E. Peckham.
107.— Some Observations on Bright's Disease. Herbert Terry.
108.— Sanatoria for Consumptives. Jay Perkins.
109.— Report of Two Brain Cases, with Operation. J. W. Courtney.
110.— Some Points on Technic of Cerebral Operations. Charles Greene Cumston.

111.— Case of Probable Acute Yellow Atrophy of Liver. F. B. Fuller.

Journal of Tuberculosis (Asheville, N. C.), January.

112.— Some Measures Lessening Infection and Spread of Tuberculosis. S. Case Jones.
113.—*Early Sign of Tuberculosis. Thos. F. Harrington.
114.—*Diagnosis of Initial Stages of Pulmonary Tuberculosis. Wm. R. Cochrane.
115.— Treatment of Pulmonary Tuberculosis with Special Reference to Specific Medication. J. Norment Baker.
116.— Treatment of Pulmonary Tuberculosis. Wm. R. Cochrane.
117.— Pathology and Symptomatology of Pulmonary Tuberculosis. Karl von Ruck.

Memphis Medical Monthly (Tenn.), January.

118.—*Ileocolitis in Children. A. B. DeLoach.
119.—*Abscess of Lung Following Pneumonia, with Case Reports. J. H. Reilly.
120.— When to Operate in Appendicitis. E. E. Haynes.
121.—*New Auto-Extension Fenestrum Splint. R. W. Barton.
122.—*Pediculi Capitis as a Cause of Enlarged Cervical Glands. Battle Malone.
123.— Rational Care of Babies. Adele E. Shaw.
124.— A Brief Résumé of Surgical Cases Operated on at City Hospital During Three Months' Service. F. D. Smythe.

Southern Practitioner (Nashville, Tenn.), January.

125.—*Diphtheria and Its Treatment. E. G. Wood.

Indiana Medical Journal (Indianapolis, Ind.), January.

126.—*Care of the Recent Case of Insanity. C. B. Burr.
127.— Report of Case of Hemophilia. George J. Weitz.

AMERICAN.

1. **Medical Errors.**—Quimby calls attention to certain errors of reasoning in medical publications: the ignoring of ignorance; too much reverence for authority; the failure to stick to the proposition in hand; the careless use of indefinite terms, etc. He uses a certain article to illustrate his points, and shows its defective reasoning. The practical suggestions he offers are: 1. The author of any paper should furnish the secretary, at least a week before his paper is read, an abstract stating the specific propositions which he proposes to establish, and the heading of the arguments on which they are supported. 2. Copies of this should be furnished the gentlemen who undertake to discuss the paper, and they should also present their direct discussion in manuscript. He thinks that here we make a great mistake, as in discussion men are apt to evade important points and more surely will not confess errors. 3. Following the written discussion the author of the paper should be put on the stand and each of the discussers be allowed a certain time for cross-questioning, the author being strictly limited to answering questions, but at the close of the discussion he should have the same opportunity to question his critics. 4. The result of such discussion may be definitely formulated; there should be appointed a judge, with authority to hold the disputants to their argument, and a jury of three or more to, at the close, decide whether the author has or has not maintained his position.

2. **Taking Cold.**—The explanation of the process of taking cold, offered by Woollen, is that it begins in a systemic depression of temperature. One who can preserve the normal standard of temperature is safe and does not take cold. He also calls attention to the relation of nasal stenosis and faulty systemic temperature, and says that mouth-breathers very generally have subnormal temperature.

3. **Therapeutics of Carbonic Acid Gas.**—The conclusion of Rose's paper treats of the uses of carbonic acid gas inflations of the rectum, and points out that administered this way it has been of benefit in the treatment of chlorosis, phthisis and asthma, as well as dysentery, though his experience does not include the specific tropical form. He also finds it valuable in vomiting in pregnancy, atony and impotence of the genital organs, etc. The difficulties in the way of the general use of gases have been in the cumbersome and imperfect apparatus, and he suggests the use of the compressed gases in suitable sized receivers for convenient use.

4. **Nirvanin as an Anesthetic.**—After noticing the methods of local anesthesia, Elsberg reports experiments with a new substance discovered by Einhorn and Heinz, and named by them nirvanin. He finds it ten times less poisonous than cocain, on rabbits, and quotes Luxenburger's findings as to its antiseptic value. His conclusions are: 1. Nirvanin has distinct and valuable anesthetic properties when injected into the tissues according to the infiltration method. 2. It is ten times less poisonous than cocain and more than three times less so than eucain. 3. It has distinct antiseptic properties; a solution of 1 per cent. or more can be kept as a stock solution and will remain sterile. 4. It is a stable compound and can be boiled a number of times without diminishing its anesthetic properties, to any degree.

6. **Echinacea Angustifolia in Impotence.**—This new remedy is recommended for impotence, by Stinson, who thinks that locally used it will be of much value as an aphrodisiac.

7. **Lung Reflex.**—Abrams calls attention to the lung reflex as of diagnostic value in the bronchopneumonia of children. It consists, as we are aware, of dilatation due to local external irritation, and in cases where lung atelectasis exists it serves to relieve the condition. Cases are cited as showing its value both in diagnosis and treatment.

8. **Excretion in Treatment of Acute Infectious Diseases.**—McCallum believes that purging has special advantages in acute infectious diseases, though the question as to the exact time to use it is the most important one. Purging is a form of serumtherapy, and its vigorous early use is of paramount importance. He speaks more especially of the treatment of pneumonia and typhoid fever by this means, and he thinks that thorough purging in the first forty-eight hours is often of the greatest importance. After forty-eight hours he would not allow it, but if it is done thus early, even the feeble and alcoholic subjects are less liable to extensive invasion of the pneumococcus and the resulting complications. His experience with the treatment of typhoid fever by purging is less extensive, but he agrees with Thistle that free purging can shorten the course of the disease, though he is not of the belief that this is brought about by emptying the intestinal canal of toxins and germs. He has used the purgative and cold bath treatment together, with apparently happy results, but whatever treatment used, he makes one rule, that is to give strychnin in good doses early. It is a tissue arouser, especially in the nervous system, and helps to prevent the vital nerve becoming oversaturated with toxins.

9. **Cerebral Rheumatism.**—The author's theory of cerebral rheumatism is that the cerebral involvement is not due to high temperature, but that it is the effect of a toxic agent directly on the brain and its membranes. The pathology of cerebral rheumatism is not clear. When changes are found, they consist in congestion, and sometimes minute hemorrhagic effusions. The symptoms are well known and the diagnosis is generally made without difficulty, but Morgan calls special attention to the possibility of confounding the effects of the salicylates with this condition. The prognosis is grave. The treatment is symptomatic.

10. **Diplococcus of Erysipelas.**—The author presents the results of investigations in the Philadelphia Hospital. In eight patients he found a special form of diplococci occurring. They were spherical cocci, about the size of the pneumococcus, usually occurring in pairs, often singly, and very rarely in chains of four, which he thinks an accidental arrangement. As observed in pus in the blood of the inflamed part, and in the blood of rabbits, they have been seen only in pairs and were encapsulated. They stain well with aniline gentian violet and carbol-fuchsin, but not readily with Loeffler's alkaline solution of methylene blue, and still less with saturated aqueous solution or with Gabbet's solution. They grow in the presence of oxygen and at the room temperature, but better at 37 C., and are nonmotile. Cultures on bouillon show a slight cloudiness at the end of twenty-four hours, which increases from day to day, there being no tendency to clear subsequently. Glycerin-agar, at the end of twenty-four hours, shows minute opaque colonies, pinpoint in size, whitish in color, and sharply defined in outline. After five to six days these colonies become about 1 mm. in diameter, and slightly raised from the surface. Blood-serum shows a more luxuriant growth, the colonies being three to four times the size of those on glycerin-agar, and proportionately raised above the surface. They are of milk-white color, distinctly outlined, and under a low magnifying power appear smooth. Stroke-cultures show a beaded growth all along the line of inoculation. Gelatin is not liquefied and there is no evidence of the production of gas. In stick-cultures, growth occurs all along the line of inoculation but apparently ceases after from twenty-four to forty-eight hours. There seem to be no radiations and no tendency for the surface-growth to spread. A slight cupping is seen at the top of the puncture

after forty-eight hours. Litmus-milk shows no change in reaction after being in the incubator for fifteen days. They do not grow on potato. Inoculations made from cultures kept in the incubating oven eleven days showed no growth. After about eight days new cultures are produced with difficulty. Inoculations were made on five rabbits each being from a twenty-four-hour pure culture of a different case. In conclusion, he says: "I believe this diplococcus is a cause of erysipelas or of a disease which in the light of our present knowledge can not be diagnosed from erysipelas. Koch's postulates have been demonstrated with reference to this organism as follows: 1. I have found this diplococcus in the diseased tissues of eight different cases of erysipelas. 2. I have grown this organism in pure culture upon artificial mediums in each case. 3. The disease was produced in four rabbits by subcutaneous inoculations. 4. The same organism was obtained from the diseased tissues of the inoculated animals."

11. **Nerve-Cell Staining.**—Paton describes the Nissl methylene blue method and the Bethe or Apathy method of staining the fibrils in ganglion cells. He calls attention especially to certain points of the technique requisite to avoid the production of artefacts in these various methods.

12. **Varicose Veins of Vulva.**—Darnall illustrates certain cases of this condition, and shows that it is not as important a complication in labor as might appear.

13. **Pelvic Hematoma Following Labor.**—Wilson describes the anatomic conditions favoring hematomas and the causes predisposing.

14. **Gastric Ulcers.**—Lund reports a case of gastric ulcer operated on sixteen hours after the perforation, with good results. The ulcer was situated on the anterior surface of the stomach, which was favorable, and he suggests that we must operate early in these cases. He was surprised by the favorable showing in the recent statistics of this operation, and he reviews the literature and tabulates the cases.

15. **Case Method of Teaching Medicine.**—This paper recommends the study and discussion of cases as a practical method of teaching medicine. It differs from the clinic in that the cases are the printed histories and results of examinations of a patient, only so much being stated as will stimulate the student to care and discrimination. The treatment is withheld, the student being called on to supply this according to his diagnosis. The method is simply another application of the inductive method of teaching. The paper is favorably noted editorially in the same issue of the *Journal*.

19. **Intensity of Second Sounds at Base of Heart.**—After briefly noticing the opinions and statements of authors, Creighton gives the results of examinations in 1000 cases, with special reference to accentuation of the second sound, and sums up her conclusions as follows: 1. Accentuation of the pulmonic second sound is almost invariable in young children and frequent in youth. 2. After the fortieth year of life, the reverse is the case, and it is then rare to find a pulmonic second sound as loud as the corresponding aortic one. 3. Between the ages of 20 and 30 years, there is no marked accentuation of either sound. 4. In view of the above facts, it is obvious that when one speaks of an accentuated pulmonic second sound as corroborative of a diagnosis of heart disease, such accentuation must mean an increase in the loudness of the sound over that normally to be expected at the age of the patient in question. 5. Further, when we speak of an aortic second sound as accented, we must mean—in case of patients over 40 years old—more accented than it normally is. Once more, the simple comparison with the pulmonic second sound will not settle the question. The comparison must be with an ideal standard carried in the mind. 6. In interpreting the meaning of an accentuation of the pulmonic second in suspected mitral stenosis, one must bear in mind the age of the patient. The presence of a physiologic accentuation of the sound can be determined only in relation to the degree of accentuation which is to be expected at the age of the patient in question.

20. **Stricture of Rectum.**—The theories of stricture of the rectum are discussed by Bullard, and the general opinion that they are of syphilitic origin is contradicted by him. He believes that the majority are of non-syphilitic origin though syphilis may be a predisposing cause. The chief immediate factor is trauma. The proper, intelligent local treatment of non-syphilitic rectal ulceration will minimize the occurrence of rectal stricture.

21. **Post-Partum Hemorrhage.**—The general subject of post-partum hemorrhage is gone over and directions given in detail as to the management of the second and last stages of labor. The author thinks that in anemic and neurotic women the nervous system plays an important part in causing the hemorrhage.

22. **Prostitution.**—Lustgarten gives a history of the St. Louis regulatory law, and explains the reasons for its failure. He thinks that the United States will look to therapeutics for the prevention of this evil, and will watch the experiments abroad before adopting measures foreign to its people and its laws.

24. **Serum Treatment of Yellow Fever.**—Matienzo reports experimental results obtained from the bacillus icteroides by Fitzpatrick, and results of injections made with the curative serum and the preventive toxin at Vera Cruz. His conclusions are as follows: 1. Both intravenous and subcutaneous injections of the serum produce a general reaction, revealed by the hyperthermia and acceleration of the pulse. 2. The injections, both subcutaneous and intravenous, neither controlled the disease nor manifested in the patient the least reaction upon the appearance, development or duration of the symptoms of yellow fever. 3. It is not possible to form conclusions on the inoculation of the preventive toxin on account of the small number of cases and the short time employed. 4. The reaction caused by the injections of the toxin in the convalescents of yellow fever demonstrates Sanarelli's assertion that the curative powers of the serum, in animals, is not due to the antitoxin substances; and confirms by its analogy to the typhoid serum the opinion, given by some bacteriologists, that the icteroides is an Eberthiform bacillus.

25.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1292.

27. **Ocular Troubles Among Negroes.**—After having noticed the iritic troubles largely due to syphilis and tuberculosis, DeBeck remarks on the infrequency of color-blindness among negroes, and thinks this, with the general good color sense of the lower races, is an argument against any decided development of the sense of color sense in civilization. He finds negroes very generally hypermetropic, myopia being very rare, and asthenopia being also infrequent. Squint is also a rarity, but paralytic troubles appear to occur in larger proportion among them than among the whites, which he attributes to the frequency of syphilis and their habits of neglect.

34. **Hematocele.**—Harrison disagrees with Fritsch's view that hematocele is solely due to ectopic gestation. He thinks it may occur from other causes. He describes the operations, preferably laparotomy, for these cases.

35. This paper, already printed elsewhere, was abstracted in THE JOURNAL of Sept. 9, 1899, § 60, p. 660.

38. **Ox-Gall Enemata in Constipation.**—Ameiss recommends the use of ox-gall enemata, obtained fresh, by injection in cases of intestinal obstruction and post-operative constipation. In three cases he found it decidedly advantageous, and in the fourth one it was ineffective, but the autopsy gave purulent peritonitis as existing. There are many cases that occur where an operation is necessary, but the use of ox-gall enemata may generally be given a trial before resorting to the knife. He believes that its action is possibly due not only to its mechanically insinuating itself in the narrow spaces of the intestinal tracts, but also to absorption of the bile salts, which are said by some to be the main exciters of prompt and distinct cholagogue action.

39. This paper, previously printed elsewhere, was abstracted in THE JOURNAL of January 13, § 1, p. 97.

43.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1292.

45.—Ibid., Oct. 28, 1899, p. 1100.

47.—This paper is commented on editorially in this week's JOURNAL.

48. **Micrococcus Zymogenes (Nov. Spec.) in Endocarditis.**—McCallum and Hastings describe a micrococcus found by them in a case of endocarditis in pure culture, which was pathogenic to mice and rabbits and produced typical endocarditis in a rabbit and dog, being found in cultures from the vegetations after death. It is very small, occurs mostly in pairs, sometimes in short chains, stains by Gram's method,

grows in small, pale, grayish-white colonies on gelatin and agar, at first clouds bouillon, which then becomes clear with a whitish sediment, does not produce gas in glucose media, liquefies gelatin slowly and to some extent also blood-serum, and is especially characterized by its behavior in milk, which it acidifies, coagulates and subsequently liquefies. It produces a milk-curdling and also a proteolytic ferment, each of which is separable from the bacterial cells. It remains viable for months in old cultures, and is tolerably resistant to the action of heat and antiseptics. It has some resemblance to the pneumococcus and streptococcus, but is distinguished from them by the culture features which have been described.

49. **Study of Neurone Theory.**—From researches with a modification of Nissl's method, besides that of Golgi, Fischer concludes: 1. The neurone theory, in so far as it claims the absolute independence of the neurones, is an untenable one, as anastomoses between them have been found. 2. The dendrites, which are generally believed to have but nervous function, may also have nutritive function, if such an inference is permissible from the existing anatomic relations, which show some of the dendrites embedding themselves in the walls of the capillaries.

50. **Interstitial Nephritis in the Young.**—Brill and Libman report a case of chronic interstitial nephritis in a girl aged 14 years, with marked extensive arterial changes and the occurrence of calcific deposits in the liver. There was also nephritis in other members of the family, and the case was complicated by the hemorrhagic diathesis. They call attention to the latency of some of these cases in children, and the necessity of care and continued observation of the heart and vessels in such cases.

51. **Lymphoma.**—LeCount describes a tumor examined by him, which represented a benign, non-inflammatory, new-growth of lymph nodes, a confirmation of the definition of lymphoma by Senn.

52. **Leucemic Lesions of Skin.**—This paper is a careful study of a case in which the nodules of the skin were examined. Oertel believes it supports the view of those who regard secondary leucemic nodules as essentially derived from cells derived from the blood.

53. **Addison's Disease.**—Philips reports a case and reviews others collected in the literature of Bright's disease, with simple atrophy of the adrenals. The pathogenesis of the condition is not explained. The histologic changes present in his cases were slight, and he thinks we have to deal with a perversion, rather than a total lack of function of the organs.

55. **Water Bacteria.**—Fuller and Johnson's paper is an attempted classification of the water bacteria, of which some forty-two species are tabulated at the end.

56. **Bacillus Pyocyaneus.**—The conclusions of Jordan's paper are: 1. The fluorescent pigment formed by some varieties of bacillus pyocyaneus is produced under conditions identical with those governing the production of the pigment by other "fluorescent bacteria." 2. The production of pyocyanin is not dependent on the presence of either phosphate or sulphate in the culture-medium. It is formed in non-proteid as well as in proteid media, but is not a necessary accompaniment of the metabolic activities of the organism, e. g., tartrate solution. 3. The power of producing pyocyanin under conditions of artificial cultivation is lost sooner than the fluorescigenic power. 4. There are greater natural and acquired differences in pyocyanigenic power than in fluorescigenic. 5. The fluorescent pigment may be oxidized slowly by the action of the light and air, as well as by reagents, into a yellow pigment, and pyocyanin may be similarly oxidized into a black pigment. 6. A convenient separation of bacillus pyocyaneus into four varieties would be the following: *a*, pyocyanigenic and fluorescigenic—most common; *b*, pyocyanigenic only—rare; *c*, fluorescigenic only—not uncommon, closely related to "B. fluorescigenic liquefaciens;" *d*, non-chromogenic. 7. Except for the occasional loss of one or another function, the different varieties are not so plastic as sometimes assumed, and can not be readily converted into one another by subjection to varying conditions of life. 8. The signification and correlation of the almost countless physiologic variations among the members of this group in respect to growth in gelatin, behavior to temperature, indol production, etc., remain to be determined. It is not yet clear that the variations in chromogenic power can be in any way correlated with the presence or absence of other physiologic functions.

58. **Differentation of Urines.** The subject of ureteral catheterization is historically discussed by Brown, and reports of his own cases given. The instrument employed by him was mainly Brenner's ureter cystoscope, which has certain advantages in its small size, the high level of the ocular end of the instrument and the easy curve. He has devised an instrument, however, which he thinks is an improvement.

59. **Fracture of Neck of Radius.**—A case of this rare accident is reported with skiagraphs, by Corson, and its mechanism discussed. It can only happen apparently by special strain in backward dislocation of the arm in extension.

60. **Properitoneal Hernia.**—After discussing the subject, Knott reports a case which was operated on by him. He thinks that every case of this type, whether strangulated or not, should be immediately subjected to an operation, thereby minimizing the unusual danger of the condition.

61. **Proper Wire for Aneurysm.**—Reeve gives a report of a case which induced him to make experiments which are also reported. He thinks a silver or gold wire about .0085 of an inch in diameter, and of sufficient temper to retain its coil, would be all that is required to fill the aneurysm with clots when carrying the positive galvanic current, and it is not so thin as to be in danger of breaking. The expense of a gold wire would seem unnecessary, as the loss of silver could hardly be sufficient to be injurious.

62. **Nitrous Oxid and Ether Anesthesia.**—Miller strongly recommends the use of nitrous oxid as a preliminary to ether anesthesia, using for the latter an open cone. The average time required in his practice is about 3.05 minutes. The shortest time has been fifty seconds. He thinks it the nearest approach to an ideal anesthesia that has been produced.

63. **Ectopia Vesica.**—The method suggested for the relief of ectopia vesica is the transplantation of the bladder wall of an animal to the lower lateral abdominal fascia of the patient. After seven or eight days the union of the two tissues is sufficiently strong to allow a plastic operation, whereby the skin flap with the bladder attached may be swung over on the extruded bladder and the edges of its attached piece sutured to the defective bladder. He does not report any case where this was tried except experimentally on a dog.

64. **Persistent Thyroglossal Duct.**—This article is the report of a case which occurred under Armstrong's observation, which was operated on twice with apparently good results.

65. **Actinomycosis.**—Ruhräh concludes his paper on actinomycosis in man, noticing the prognosis, diagnosis, treatment, etc., and gives a list of the papers used in this article.

69. **Laboratory Milk in Infant Feeding.**—Starr reports an unsatisfactory experiencee with laboratory milk as compared with home modified milk food. He thinks that the separation and sterilization are overdone. He would not condemn it absolutely, as it has a use in feeding infants who must be artificially nourished from birth, in whom it can be employed up to the second month, but its applicability is limited.

70. **Cerebrospinal Symptoms in Influenza.**—Westcott reports two cases, apparently corresponding to the condition described by French observers as pseudo-meningitis-grippalis, but either ending in recovery or showing only hyperemia without inflammatory changes or bacteria after death, and with pneumonic infiltration of the lower lobes of the lungs. In both of his patients recovery took place.

74.—See abstract in THE JOURNAL of June 3, 1899, p. 1256.

76.—Ibid.

80. **Hysteric Blindness.**—The cases reported by Moore are discussed with the diagnosis, treatment, and nature of the condition. He thinks that in all of his cases the assurance of the discovery of a cause was an important factor in the cure. In every one an operation or shock was sufficient to relieve. The patient should be removed as far as possible from immediate relatives and environment, and the treatment, aside from this, is the use of such remedies and measures as are capable of startling and surprising the nerve-centers.

83. **Purulent Ophthalmia.**—It is fortunately not common for physicians in general practice to meet with purulent ophthalmias, yet they do occur and how to meet them is an import-

ant point. Van Fleet briefly reports nine cases in which he was called in consultation. He advises, as a matter of prophylaxis, the use of vaginal douches when there is any suspicion or knowledge of gonorrheal infection before child-birth. From birth he would use Credé's method of a 2 per cent. solution of nitrate of silver, and he gives instructions as to its administration. He believes that this drug in the eye is perfectly harmless even in strong solutions, however painful it may be, and there is no efficient substitute for it. The treatment of the first stage consists of this and the application of ice-cloths changed sufficiently often to keep them from becoming warm, and washing the eye with some mild collyrium to keep it free from pus. The danger is involvement of the cornea, and special care should be used to see that it is not injured. If involvement appears, cauterization is the best method, and if it goes so far as to produce bulging, it should be punctured as often as it occurs. Never abandon the case as hopeless. Many times the condition will terminate, leaving a more or less useful eye.

85. **Myopic Astigmatism.**—Thomson lays down the following general rules for the treatment of myopia and myopic astigmatism: 1. Give total spheric correction, or as near to it as possible, and insist on its being worn all the time. 2. Look carefully for low degrees of astigmatism and correct fully. 3. In high degrees of astigmatism, give the total correction so as to educate the retina, if possible.

93. **Major Operations with Ethyl Chlorid and Chloroform.**—Bloch advocates the use of ethyl chlorid locally, with primary chloroform-inhalation anesthesia. He thinks the cause of pain is direct irritation of the nerves by pressure and pulling, and that by this method the operation can be rendered painless and successful. In 267 patients thus treated, he has used only from 1 to 6 c.c. of chloroform when operating by this method. The ethyl chlorid is used by spraying after the patient has become anesthetic, the patient being apparently conscious considerable of the time.

98.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1419.

99.—Ibid., p. 1424.

101.—Ibid., p. 1419.

106. **Nerve Grafting.**—Peckham reports a case of motor paralysis of the left leg, following fractured spine, which had been partially relieved by laminectomy. Branches from the internal popliteal nerve to the gastrocnemius were divided and grafted into the external popliteal with the result of producing some slight improvement in muscular extension. Another patient with complete paralysis of the extensor muscles of the leg was similarly treated, with also partial improvement. He suggests dissecting out the nerve plate ending, or localizing it sufficiently to take a small amount of muscle containing it, and implanting this into the paralyzed muscle.

113. **Early Sign of Tuberculosis.**—Harrington calls attention to a widely dilated state of both pupils as an early sign of tuberculosis. He has come to associate it, from his observations, with the incipient stage of the disease.

114. **Diagnosis of Initial Tuberculosis.**—Cochrane, reviewing the signs of early tuberculosis, suggests the advantage in physical examination, of the following procedures: Removing all clothing to the waist, for any accuracy in auscultation or percussion; the use of the percussion hammer with a finger as a pleximeter in detecting areas of slight thickening; the advantage of "open mouth" breathing during auscultation or percussion; the advantage of forced inspiration and expiration during the examination of suspicious areas; the absolute necessity, for the evidence afforded, of examination of the sputum of all suspected cases; the employment of the tuberculin test in suspicious cases of very recent development, in which only indefinite conclusions can be reached by other methods of diagnosis.

118. See abstract in THE JOURNAL of Dec. 2, 1899, p. 1420.

119.—Ibid.

121.—Ibid., p. 1421.

122. **Pediculi and Enlarged Cervical Glands.**—Malone reports a case in a child, supposed to be scrofulous, with marked swelling of the glands, which appeared to be directly connected with head lice, and says he has seen numerous other cases similar to the one given. He calls attention to the fact of cervical swelling from this cause.

125. **Treatment of Diphtheria.**—Wood's paper is a very full discussion of the treatment of diphtheria. He has faith in the use of alcoholic stimulants and strychnin, and for local treatment he would use mild, unirritating methods, to avoid cardiac excitement. The better part of his paper is taken up with the subject of antitoxin, which he endorses, considers harmless and generally, if not invariably, effective.

126.—This paper, here printed as original, has appeared elsewhere: see abstract in THE JOURNAL of January 20, § 130, p. 168.

FOREIGN.

British Medical Journal, January 6.

Observations on General Metabolism and the Blood in Gout. CHALMERS WATSON.—Watson reviews the subject of general metabolism and the condition of the blood in gout, and reports a case carefully observed, with blood examination and attention to excretion and diet. He thinks, from these results, that we must abandon the theory at present based on Garrod's observations. The following points appear to him to be established: 1. The alkalinity of the blood is not diminished during the gouty attack. 2. The excretion of uric acid is not diminished during the attack, but the reverse; therefore there is no ground for the supposition of any temporary diminution in the capacity of the kidneys to excrete uric acid. 3. The amount of uric acid in the blood is not greater during the attack than in the intervening period. Admitting these points, the cause of the acute paroxysm is still to be sought. He speaks of the advisability of more attention to histo-chemical characters of the blood, the ratio of uric acid to other important products of metabolism, and, if opportunity be found, examination of the bone marrow.

Lancet, January 6.

Acidity. JAMES F. GOODHART.—The author criticizes the common ideas as to diet, etc., in the controlling of uric acid production and excretion. His contention is that uric acid is a common product which may be considered as the ash, resulting from the workings of the many-chambered kiln of our bodies, and that the fault, if there is any, lies not in the ash or even in the coal, but in the driver or the driving power, which should regulate the process of combustion. The uric acid passer invariably presents problems each of which should be solved by itself. In one case the cause may be the visceral sluggishness which is a common outcome of nervous exhaustion, in another heredity, in another nervous shock, and it may simply be the beginning of senility. Each case must be judged by itself and treated accordingly.

Internal Derangements of Knee-Joint (Popularly Called "Slipped Cartilage"), Based on a Series of Two Hundred Cases. WILLIAM H. BENNETT.—The subject of loose cartilage in the knee-joint is treated by Bennett. He describes the symptoms and calls attention to the fact that there are some cases with no displacement whatever, but simply bruising of the peripheral edge of the semilunar cartilage and its attachments without displacements, the result being a local effusion of blood, and subsequent inflammatory exudation which acts as a foreign body. This class of injuries is, he thinks, more common than any other, though he has not seen it noticed in surgical literature. The treatment by rest is first mentioned, and he insists on the importance of massage of muscles and joints without movements, and this can not be commenced too soon. He notes with what rapidity the muscles of the thigh, and to a degree those of the leg, waste if left to themselves in this injury, and massage and exercise must not be limited to the wasted muscles of the thigh but should be applied to those connected with the iliotibial band, the gluteus maximus, and the tensor fasciæ femoris. The essential point is temporary rest of the joint and avoidance of rotation movement. As regards apparatus, he does not speak with great favor, and thinks that operative interference should be postponed until all other methods have failed to satisfy the patient. He does not think the operations entirely free from risk, and therefore even the exploratory ones are not to be attempted with perfect impunity.

Histology and Prevention of Blackwater Fever. W. H. CROSSE.—Crosse regards blackwater fever as simply a complication of malaria, basing his opinion on a thorough examination of a case in which he found nothing in the tissues dif-

fering from those usually found in malarial patients. Precautions necessary for its prevention are those given for malaria in general. As regards the abolition of malaria it would be impossible to destroy the parasites that produce it in extensive regions, though they may be destroyed around residences. He thinks the only way to stamp out the mosquito is to introduce some parasite which is inimical to it, into the countries which it inhabits, and he mentions one that he has heard of in western North America. The individual precautions should be general care of the health, avoiding chills, exposure, etc., moderation as regards alcohol, suitable food, proper water-supply, and the use of quinin, and return to a non-malarial climate.

So-Called Danger From Use of Boric Acid in Preserved Foods. OSCAR LIEBREICH.—In a recent article (*Lancet*, Nov. 11, 1899), Annett says that boric acid, if taken in small quantities, is injurious to health. Leibreich here points out what he thinks are the errors in his methods. He himself placed nine fowls on ordinary corn feeding for several days, and finding one showing signs of disease, withdrew it and carried on the experiments with the remaining eight. They were fed porridge containing boric acid to the amount of more than an ounce in a gallon, and in three days each of the hens had received about 2 grams without any signs of disease being noticeable. In the twelfth day seven of the hens received 1/2 gram of boric acid at 1 p.m., again repeated at 3 p.m. The eighth hen received 50 grams of sweet almonds. On the thirteenth day no sign of illness was perceivable, and the hens were perfectly well on the sixteenth. He thinks that this shows that experiments of Annett and Robinson are not reliable, and that something else must have been acting than the boric acid. He believes that it is very far from being proven by experiments that small quantities of boric acid, if used for a long time, are poisonous to adults and children.

Three Cases in Which Movable Kidney Produced all the Symptoms of Gall-Stones. T. J. MACLAGAN and FREDERICK TREVES.—Three cases are reported, producing all the symptoms of gall-stones: attacks of hepatic colic followed by jaundice were produced by pressure on the bile-ducts by the displaced kidney. The diagnosis of gall-stones was made by all physicians and surgeons who saw the patients, but in not one of them were gall-stones found. Murchison makes no allusion to this cause of jaundice, and it must therefore be added to his list. The authors refer to cases reported by Hale White and A. H. Cordier as somewhat similar.

Report on "Henpuye" in the Gold Coast Colony.—ALBERT J. CHALMERS.—The disease described occurs among the negroes on the West Coast of Africa, during or following an attack of yaws. It consists of a swelling on either side of the nose, produced by the deposition of new bone under the periosteum, growing slowly in all directions but not infringing on the orbital or nasal cavities in any way. Exceptionally only is it unsymmetric. It is accompanied by pain in the beginning of the disease, and later headache is felt, and pain during wet weather. The swellings may grow indefinitely and interfere even with sight, by their obstruction, or they may stop at any stage. It is more common in men than in women. He reports four cases. The treatment was operative, and Chalmers considers it as a localized osteoplastic periostitis.

Differential Diagnosis of Mongolism and Cretinism in Infancy. G. A. SUTHERLAND.—The differential diagnostic points between Mongolian idiocy and cretinism are here laid down. The chief are that the former is congenital; infants are lively and imitative; the skull is flattened anteroposteriorly; the palpebral fissure is small and oblique; the lips mobile; congenital heart disease common; the little finger short and curved; thumb short; the thyroid gland is normal, and treatment without benefit. In cretinism, on the other hand, the symptoms rarely appear before the sixth month; the infants are dull and impassive; the skin swollen and dry with fatty deposits in the neck; there are no characteristic skull deformities; the lips are thick and immobile; heart disease is rare; the fingers relatively normal, and thyroid glands absent or atrophied. When these symptoms are not marked, stress should be laid on the movements of the face and limbs of the Mongolian idiot, as compared with the dull inactive condition in the cretin. The final test is the therapeutic one.

Practitioner (London), January.

Pneumonia. WILLIAM H. BROADBENT.—After noticing the etiologic symptoms and physical signs, Broadbent expresses his belief that pneumonia is a disease of short duration, and that a large number of patients will recover without drugs. The temperature is high and there is no good in trying to reduce it. He thinks antipyretics are injurious, except perhaps in the very beginning. A single dose has been known to shorten the disease and occasionally an early dose relieves the pain and is therefore justifiable. The diet should be liquid. Stimulants are rarely necessary, but often useful, and should be reserved until they are indicated by small, weak and faltering pulse, dry tongue with restlessness or delirium. If a patient sleeps after a little brandy or champagne, or if the pulse becomes less frequent or larger, it has done good. In some exceptional cases a considerable amount of brandy may be required, and sometimes brandy in champagne seems to have a better effect than either alone. When sleeplessness is persistent and distressing, one may not hesitate to give a small dose of morphin hypodermically. It is all the more useful if there is delirium. When no drugs are really required, it is a comfort to the patient and friends that something is being done. Simple salines allay thirst and have some influence on the cough, especially when given in effervescing mixture, and are refreshing. Carbonate of ammonia and quinin may be given if the pulse flags. Strychnin is often of very definite service when the cardiovascular system shows a tendency to asthenia. It is best given in small doses hypodermically, at intervals of from twelve to four or three hours, and it is important to note that it may be required early. Digitalis may be extremely useful on occasion, but given at all periods of the disease its value is dubious. Inhalation of oxygen is of direct benefit when the face is livid and lips blue, and may possibly carry a patient through the dangerous phase of the attack, with strychnin and stimulants. Dr. Broadbent is not certain as to the benefit of ice bags, and poultices assiduously employed are distressing. One for three hours twice in twenty-four will be sufficient. In one particular complication, when invasion of the lung is so rapid that the right ventricle can not cope with the sudden resistance in pulmonary circulation and is paralyzed by overdistension, venesection may be of great service. He says: "The patient will be cyanosed, unable to speak, and scarcely able to breathe or cough; he will be sitting up in bed with his legs over the edge unless prevented, supporting himself on his hands, the veins of the neck and temple turgid, the eyes staring, the expression agonized and beads of sweat standing on the face and forehead. The pulse will be small and short, probably scarcely perceptible, while the heart will be found beating violently. It is scarcely possible to define the heart by percussion, but the right cavities are enormously distended, and the contrast between the cardiac impulse and the pulse shows that the blood is dammed back in the lungs so that it reaches the left ventricle in very inadequate amount. Under such circumstances the relief by bleeding is most striking. The pulse improves as the blood flows, the breathing is relieved, and when sixteeen to twenty ounces have been withdrawn all the distressing symptoms will have disappeared. The same results are not to be expected later, when asthenia has become a prominent feature in the symptoms, although, of course, there is a dilatation of the right heart. It has been already stated that delirium is common in the course of pneumonia. It usually subsides at the crisis, especially when with this there is a long quiet sleep. But it may persist and become more violent, or violent delirium may set in after the crisis. It is probably of toxic origin, the source of which may be the exudate absorbed into the blood, or it has been attributed to asthenia. The remedial measures are nourishment and stimulants, with strychnin and digitalin hypodermically."

Treatment of Pneumonia. WILLIAM GAIRDNER.—This author reviews the history and treatment of pneumonia within his recollection. His own generally employed method is mainly an expectant one, but he still uses antimony in very small doses, under certain conditions. He especially contends against the use of opium, which he thinks is a very dangerous remedy in pneumonia and pleurisy.

Mortality and Frequency of Pneumonia as Affected by Age, Sex, Seasons, and Habits. HECTOR MACKENZIE.—The

author analyzes the registrar-general's statistics of pneumonia in the United Kingdom, and finds that this disease causes nearly as many deaths as enteric fever, diphtheria, smallpox, measles and scarlet fever put together and, excluding children, its deaths greatly outnumber theirs. The mortality is greatest in males, especially after the age of 25, amounting to 5.6 per cent. of deaths from all causes, while in females the deaths are 4.8 per cent., and in males between 25 and 65 years of age, 8 per cent. of all deaths are due to this disease. He notices Dr. Wells' statistics as compared with those of the St. Thomas Hospital, which show a large mortality. From the total registered statistics he finds that, in a population of 30,000,000, at least 220,830 persons are annually affected with pneumonia, of which 31,950 die. As regards seasons, the coldest season, from November to February, seems to furnish the smallest number of cases, with the largest number occurring in the spring months. It does not seem to him proven that alcoholism makes an individual more susceptible to pneumonia, but it diminishes chances of recovery. Cold and wet are not so important in etiology as supposed. Kidney disease increases susceptibility. The relation of rheumatism to pneumonia is uncertain.

Pneumonia from a Public Health Standpoint. ARTHUR NEWSHOLME.—This writer analyzes the British statistics of pneumonia from the public health standpoint. He finds that in the decade 1881-90, one out of every eighteen deaths from all causes was registered as due to pneumonia. This shows a higher proportion than the preceding decade, probably produced by influenzal complications. The heaviest rate of mortality is found in the earliest, and next heaviest in the later years of life. The death-rate in females is more from the ages 10 to 15 than in males, but in all other periods lower. Comparing the deaths from pneumonia with those from phthisis and bronchitis, the death-rate from pneumonia between the years 1881 to 1890 was very slightly decreased, 1 per cent. only, and this was due to the lessened mortality in the earlier years of life; that from bronchitis was increased, while phthisis showed a very decided decrease at all ages. Only a small portion were due to transfers of deaths from phthisis to pneumonia, but it is doubtful whether the same statement can be made for bronchitis. A larger number of deaths take place in the colder months, the cold having a depressing influence, thus favoring the mortality. Regarding race, it appears that the natives of the tropics and especially negroes are particularly liable to the disease. Occupation has its influence, the smallest mortality being among professional men and farmers, while laborers in dusty employments and those engaged in the liquor business show the highest mortality. In concluding his article he notices epidemic and infectious pneumonia, showing the occurrence of each.

Medical Press and Circular (London), January 3.

Cinematograph and Teaching of Surgery. E. DOYEN.—This article, which was accompanied by demonstration before the British Gynecological Society, describes the use of the cinematograph for teaching and illustrating surgery. The author's first demonstration was made in 1898, in Edinburgh, thus establishing his priority, and he calls attention to the value of the method for students, as enabling them to observe what has not been possible in actual clinical demonstration. He believes that the surgeon may be benefited by showing his own operation, and be able to see where he can correct his errors. He claims that progress in surgery during the last few years has been due far more to the improvement of technique than to the observance of the laws of antisepsis, and that the cinematograph will demonstrate this better than any descriptions or photographs. It will show how the operations should be simplified and useless maneuvers done away with. The chances for the patient will be greatly improved, for in that matter especially "time is life." He says: "Lectures with the cinematograph should be given as follows: 1. The professor briefly describes the operation, and shows upon the screen projections of the principal instruments to be used. 2. Each step of the operation is shown in detail by fixed projections either of photographs or drawings. 3. When the technique is thoroughly understood the operation itself is shown on the cinematograph." If the professor has films of several cases of the same operation, he demonstrates the technique and the necessary modifications in the different cases. The students need no longer crowd the operating theaters as more or less intelligent on-lookers. They will be obliged to follow a preparatory course before they actually assist the surgeon. They will then be able to draw profit from his lectures and from the operations themselves. The application of the cinematograph may be considered one of the greatest improvements in the teaching of operative surgery, since it will make known throughout the world the best methods and the surest means of saving part of humanity from suffering and from death."

Intercolonial Medical Journal of Australia (Melbourne), Nov. 20, 1899.

Some Forms of Cystitis. ALFRED AUSTIN LENDON.—The author calls attention to a condition which has not been much noticed in text-books, and which he calls catarrhal cystitis. It is characterized by excessive discomfort without obvious change in the urine and no tendency to formation of pus, and is rapidly cured by drugs internally without the necessity of washing out the bladder. Of the other form, purulent cystitis, a case is reported, the intractability of which he credits to the fact that probably the ulceration of the mucous membrane did not yield to the treatment. He incidentally mentions the case of a boy with extroversion of the bladder, in whom he had, after several attempts, succeeded in implanting the left ureter into the rectum, but failed with the right. After operation the urine passed by the rectum was ammoniacal, while the bladder surface had lost that peculiar pungent odor which was previously so marked. He asks whether in his case of cystitis the decomposition took place in the kidneys or in the bladder, and offers the above as bearing on the question.

Bulletin de l'Academie de Medicine (Paris), Dec. 19, 1899.

Variations in Galvanometric Curve in Health and Disease. M. MENDELSSOHN.—In this communication Mendelssohn asserts that the variations in the galvanometric curve are important aids in the differentiation of organic and hysteric paralysis, and of secondary contractions of cerebrospinal origin —the result of descending degeneration, for instance—and hysteric contractions. We know that every contraction of the muscles is accompanied by a manifestation of electric energy which can be registered with the galvanometer like the curve obtained with the myograph. Mendelssohn establishes the identity of the two curves thus obtained whenever a muscle contracts under the influence of the will or of artificial stimulation. Organic and hysteric morbid conditions can be differentiated by the different behavior of the galvanometer index in the second phase of the curve. It turns with the same rapidity in simple as in atrophic paralysis, but in the latter case the return to zero is very much slower, although still smooth and gradual. In case of contractions the return of the index to zero is very slow and is interrupted by two or three pauses, the index even retrogressing once or twice. This jerky curve is characteristic of hemiplegic contractions and is never observed in case of hysteric contractions. The difference is probably due to the fact that the muscle contracts all together, *in toto*, in hysteric, and by fasciculi in organic contractions. The curves registered in case of muscular contractions artificially induced, show a marked difference between simple and atrophic paralysis. In the latter the second phase, instead of duplicating the first is very much inferior to it, which can be accepted as positive evidence that the muscle has been invaded by degeneration.

Presse Medicale (Paris), Dec. 23, 27 and 30, 1899.

Capillary Embolism After an Injection of Calomel. A. RENAULT.—A young man with very extensive cutaneous syphilitic lesion was treated with subcutaneous injections of calomel, in the buttocks, 5 cg. each. Every precaution was taken; the needle was inserted first, detached from the syringe, and the improvement was manifest. The sixth injection, fifty-nine days after the first, was followed almost at once by intense dyspnea and distress, respirations 36, pulse 120 and marked stethoscopic symptoms. The syndrome gradually passed away in three or four days. Renault reviews a number of similar observations on record, all presenting the indications of a hemorrhagic infarctus in the lungs due to an embolic process, one fatal, and concludes that the insoluble mercurial salts are dangerous on this account, and should be reserved exclusively for extremely serious conditions, when immediate action is necessary, as in cerebrospinal syphilis or with grave visceral

lesions. It should only be used in other conditions after the failure of other methods of mercurialization, and then only when convinced of the integrity of the emunctories.

Heredity in Chronic Nephritis. R. ROMME.—"Eighteen cases of chronic nephritis in three generations of the family of a diamond cutter have recently been reported by Pel of Amsterdam. One daughter and her children and the children of another daughter have alone escaped. There are two cases of diabetes now in the third generation."

Respiratory Gymnastics in Pulmonary Tuberculosis. E. RIPARD.—The emaciation of tuberculous subjects is not merely the disappearance of adipose tissue, but is due to an actual muscular atrophy which should be combated in the treatment of the disease. The subjects should be trained in gymnastics, to restore strength to the muscles engaged in respiration, as these are the most important in their case. First they should be trained to hold themselves erect. This is easiest learned by having them lie flat on the back for a few minutes to an hour several times a day, without a pillow, on a hard bed. The elbows should be held back in walking and now and then the subject should take a few steps on tiptoe, which throws the chest forward. The reclining favors both circulation and respiration and the subject soon learns to prefer the erect position. Yawning is one of the best methods of exercising the respiratory muscles, driving the air all through the lungs and evacuating residual air. The subject is instructed to yawn voluntarily four or five times in succession several times a day. But the most important therapeutic measure of all is to keep him cheerful and get him to laugh often. Laughing is the gymnastics for the lungs par excellence. "No air lurks in the alveoles after a hearty laugh." Letulle organizes concerts several times a year for his patients in the Boucicaut hospital, as a therapeutic measure. "The delight of the patients should be seen to be appreciated. They talk of the entertainment a fortnight beforehand and keep laughing over it for several weeks afterwards." The gymnastic exercises practised at the Boucicaut are simple and require no special apparatus. One is to stand with the hands on the hips, rise on tiptoe and then, returning to normal, turn the head and trunk around to the right and then to the left. Another is to raise the arms and breathe deeply; drop the arms and expel the air. Two persons face to face take hands and slowly try to push each other back in turn without moving the feet. Other exercises are with the arms alone while reclining on the hard bed. "It is only sufficient to do some of these gymnastic exercises yourself to realize their effect on the respiratory muscles. And above all, never forget the laugh."

Treatment of Salpingo-Ovaritis by Ablation of Both Tubes and Partial or Total Preservation of One Ovary. F. JAYLE.—The systematic preservation of part or the whole of an ovary is far preferable to total castration, as this avoids all post-operative trouble from the artificial menopause. If the ovary is sound, it is left entire, but if not, Pozzi seizes it with the thumb and finger to ensure hemostasis and immobility. The morbid portion is circumscribed with two deep incisions, and the organ resected until sound tissue is reached, even if only a fifth of it is left. The edges of the wound are perfectly coaptated and sutured with fine catgut, stitches not over 5 mm. apart and drawn up very gently but effectively. They should be intraovarian and not be seen in the depths of the wound, like the stitches with Emmet's needle in a perineorrhapy. These maneuvers are delicate and add to the length of the operation, but the results fully justify them. A number of observations are appended showing the benefits of this systematic preservation of even a fragment of an ovary, one dating from 1897, menstruation regular, no post-operative troubles.

Progres Medical (Paris), Dec. 23, 1899.

Hydatid Cyst of Left Frontal Lobe. Operation, Large Loss of Cerebrospinal Fluid: Recovery. J. E. ESTEVES.—This communication from Buenos Ayres states that hydatid cysts are becoming more and more frequent in the Argentine Republic. Ten operations for such cysts of the brain are on record in local publications; six recoveries. Most of the cases were drained, but the observation reported by the writer is the only one with a ventricular communication that recovered. The cyst was the size of an orange and had destroyed almost the entire frontal lobe. Some of the contents escaped during the operation, into the cerebral cavity, wiped out afterward with gauze. The dura mater was sutured with fine silk and the osteocutaneous flap and scalp were also sutured as water-tight as possible, to which fact Esteves attributes his success; no lavage, no draining. There was slight emphysema and edema, which soon ceased, and the patient, a girl of 13 years, had resumed her normal intelligence, which had been long clouded, with other symptoms due to the pressure of the cyst in this region, when nine days after the operation the strabismus returned with vomiting and pain and the dressings were wet with a transparent yellow fluid—estimated by weighing the dressings before and after application at 800 grams a day—for eight days, when it gradually subsided. Two or three months after the operation the mouth is still slightly drawn to one side and strabismus and mydriasis still persist. The intelligence seems normal with the peculiarity that the girl is subject to motiveless fits of laughing. Tests of the fluid from a number of hydatid cysts showed it non-toxic, and in seven cases absolutely sterile.

Semaine Medicale (Paris), Dec. 27, 1899, and January 3.

Tuberculides. LEREDDE.—Under this heading Leredde groups erythematous lupus, acnitis, indurated erythema and Mibelli's angiokeratoma, regarding each as a toxituberculous angiodermitis. They form a natural group, he states, from the anatomic as well as the etiologic point of view and clinically bear a close resemblance. There are vascular lesions in all, limited to dilatation, obstruction or hemorrhages of the capillaries, or affecting the larger vessels; arteritis and phlebitis are constant in the three first. The presence of cell accumulations around the vessels, the proliferation of connective tissue, the phenomena of degeneration, are evidently connected with the irritation produced by agents proceeding from the vessels. The lesions may begin deep and not approach the surface until later. These various forms of tuberculides may be associated in pairs and coexist in the same individual. Tuberculous infection elsewhere is frequently noted with them. He disapproves of the term scrofulide, as nothing now remains of the old term scrofula except the conception of a special organic medium on which certain affections develop electively and in a different manner from their development in other individuals: the cutaneous tissues are especially liable to infection and other peculiarities as, for instance, the gradual slitting of the lobe of the ear by the weight of the earring, noted by Besnier in every case of this kind in his service. Leredde concludes with the practical inference that every person affected with tuberculides should be regarded as a tuberculous subject, requiring first of all internal and hygienic treatment—superalimentation, aëration, hydrotherapy—the weight taken regularly, auscultation, cod-liver oil, arsenic and tannin, systematically employed. The dermatologist should never confine his measures to merely local treatment. He will obtain results with general antituberculosis treatment beyond what external therapeutics will ever afford as he attacks the cause instead of merely the effects.

Surgical Treatment of Ascites with Cirrhosis of the Liver by Artificial Production of Peritoneal Adhesions.—Eight observations are now on record in which the attempt has been made to cure this ascites by establishing collateral routes for venous circulation, as described in THE JOURNAL, xxxiii, p. 222, and elsewhere. The results were positive in 5; the ascites recurred in 2; 1 died from a concomitant nephritis. "These facts proclaim the value of the procedure especially when it is borne in mind that all the cases had resisted repeated tappings. Subpubic drainage is counterindicated on account of the danger of infection, and the measures to induce adhesions must be extremely gentle, scraping the serous surfaces very lightly in order to induce the formation of delicate neomembranes which are usually deficient in blood-vessels." The latest observations included in the above were reported recently by Rolleston and Turner. (See abstract in THE JOURNAL, xxxiv, p. 37.) They scratched the surface of the liver and diaphragm with a sponge and the nails, and tied the omentum between the liver and diaphragm with a kangaroo tendon passed through the margin of the liver, omentum and peritoneum; no drainage. One patient is very much improved, although a slight ascites still persists 4½ months after the intervention. The ascites has recurred in the other notwithstanding frequent tapping.

Beitraege z. Pat. Anat. xxvi, 3.

Finer Structure of the Liver Cell. A. SZUBINSKI.—The writer's investigations have established the existence of two excretory systems in the liver cell; the bile system and the glycogen system. Each is entirely distinct. The glycogen system starts in the vicinity of the nucleus and spreads in the finest little canals through the body of the cell, winding in every direction and finally reaching the blood capillaries. It is evidently an accessory of the circulatory system. The bile system is coarser and the tubes expand into vacuoles in case of stagnation of the bile. He deduces a plausible explanation of the etiology of icterus from these facts.

Berliner Klinische Wochenschrift, Dec. 25, 1899.

Specific Treatment of Tuberculosis. J. PETRUSCHKY.—To the question whether Koch's treatment will permanently cure tuberculosis, Petruschky replies with a most emphatic affirmative, and refers to twenty-two cases permanently cured for four to seven years by his personal method of applying Koch's treatment. They represent 33 per cent. of the entire number he has thus treated; four were advanced cases. The diagnosis was based on the clinical symptoms and presence of bacilli, the cure is asserted from the absence of both and the failure of tuberculin, frequently tested, to induce the slightest reaction, months and years afterward. He calls his method "treatment by stages." It is based on the experience that tuberculous subjects treated according to Koch's method until they have lost their sensibility to tuberculin—although all the tuberculous tissue has not been expelled—regain their former sensibility to tuberculin after three or four months. This regained sensibility favors treatment as, after this interval, an effective tuberculin treatment can be inaugurated once more, and this resumption repeated as long as the sensitiveness to tuberculin recurs. Two of these stages were sufficient in most cases for the definite extinguishment of bacilli and symptoms. Subjects exposed to acute attacks of secondary infection required a little longer. All have been kept under observation and tested from time to time with the tuberculin. All attempts to cure tuberculosis by some brief procedure are based on an erroneous conception of the nature of the affection and of the healing process. Foci of different ages usually coexist. He adds that persons dismissed from sanatoria, supposed to be cured after a brief course, are a special source of danger, as the bacilli may appear again in the sputa while the subject is unaware of his condition and trusts the assertion that he has been permanently cured. "Irrational methods of application are to blame for the failures with the Koch system of treating tuberculosis." The sensibility to tuberculin increases after one reaction. After the first distinct reaction in nearly every case the dose should be kept the same or slightly reduced.

Deutsche Zeitschrift f. Chirurgie, liii, 3 and 4.

Operative Treatment of Pseudo-Arthrosis. WEISS.—"Resection of the ends with consecutive suture, and autoplastics in case of large defects with a flap of periosteum, or bone and periosteum, is the method to be recommended in these cases." Weiss adds that ten patients were cured in this way, the edges denuded obliquely or in steps or wedge-shaped. The cure required four weeks to a year.

Conditions and Technic of Operative Removal of Pressure on the Brain. BEREZOWSKY.—Six patients operated on to relieve traumatic epilepsy have been cured without relapse during nine years to five months, out of eleven thus treated. In these cured cases a palpable cause for the intracranial pressure was found and removed, and the floor of the defect had not become completely ossified; traumatic cyst in 4; deep scar after cerebral abscess and acute accumulation of fluid with a Z-shaped fracture, one each. Adhesion of the brain was noted in all. The causes of the five relapses were accumulations of the drained fluid or chronic alcoholism, incomplete operation or epilepsy of too long standing—seventeen years. Treatment of traumatic epilepsy coincides in general with the treatment of an "impression fracture:" removal of everything that might occasion pressure, prevention of the ossification of the defect in the skull, removal of pathologically altered portions of the brain, evacuation of all subarachnoid or intracerebral cysts, long drainage of the lateral ventricle. Berezowsky's experiments with silver plates to prevent adhesion of the bone flap proved a failure, and he now recommends peripheral excision of the exposed dura in such a way as to leave three bridges. He has thus recently treated three patients with genuine epilepsy. [Habar now reports twelve cases in which a celluloid plate healed in place without reaction.—*Wien. Klin. Woch.*, Dec. 7, 1899.—ED.]

Memorabilien (Heilbron), Dec. 30, 1899.

Shun Superfluous Fat in Diabetes. F. V. OEFELE.—This writer called attention some time ago to the affections of the pancreas noted *intra vitam* in a large proportion of diabetics: fatty degeneration, lithiasis, neoplasms, etc. He has lately been investigating the feces of fifty-seven diabetics, and finds that the strength of the diabetic seems to depend more on the amount of the fat waste in the feces than on the amount of sugar waste in the urine. Numbers with 3 and 4 per cent. sugar were physically vigorous, while others with only 1/3 or .25 per cent. were exhausted by five minutes of exercise on a level. The loss of undecomposed fats in the feces parallels the loss of physical energy still more closely. Diabetes with 4 to 10 per cent. undecomposed fat in the feces were comparatively strong, while in others with 10 to 13 per cent. there was marked loss of energy, and 13 to 16 per cent. corresponded to extreme debility. This elimination of undecomposed fats is always accompanied by a larger or smaller percentage of decomposed fats and unused albumin enveloped in fat. This waste of fat must not be disregarded, and substitution of the carbohydrates by fats must be strictly warned against. A forced fat diet would be utilized far less than a carbohydrate one in these circumstances. Oefele sometimes supplements his treatment of diabetes by the administration of sapo medicatus coated with salol or keratin.

Therapie der Gegenwart (Berlin), November, 1899.

Influence of Massage on Morbus Basedowii. ZABLUDOWSKY.—No patient has been cured, but numbers have been wonderfully relived and improved by systematic vigorous massage of one side of the thyroid gland at a time. The gland substance is taken up between the fingers of both hands and squeezed horizontally and vertically. If the patient is very sensitive Zabludowsky massages with one hand alone, while with the other he produces vibrations by tapping on the spine. This vibration, combined with intermittent pressure on the points where the nerves are accessible in the neck to the vibrating finger, has a marked effect on the morbus, both direct and by irradiation and by reflex action. It stimulates the cardiac vagus and sensory nerves. The muscles are stimulated in turn by resistance gymnastics following the massage.

Treatment of Hemorrhoids. I. BOAS and F. KAREWSKY.—Boas denounces the theory that a bland diet is beneficial in case of hemorrhoids, claiming that it is absolutely injurious, especially sweet milk, on account of the lack of stimulation of the peristalsis, which should be promoted in every way. The most important measure in treatment is the toilet of the anal region after defecation with a solution of tannin or alum on a cotton wad. An ascending douche is recommended still more highly. "The results of massage or electric treatment rarely pay for the trouble." If enemata are necessary, a soft sound should be used, and all irritating substances like glycerin, salt, etc., should be avoided. Purgatives should be strictly rejected except in extreme cases, when a gentle purgative may be taken. To control hemorrhage persisting even in spite of normal feces, he warmly recommends a teaspoonful of fluid extract hamamel. Virginica in a wine-glass of water three times a day for four weeks, then twice a day for a month, and then once a day for another month. In case of severe hemorrhage he administers a powerful dose of opium and then tampons the bleeding spot with gauze. After it has been arrested for three days he gives a dose of castor-oil.

Anemia Gravis as Consequence of Hidden Hemorrhoidal Hemorrhages. C. A. EWALD.—Observations are related in which puzzling anemia was finally traced to completely ignored hemorrhoidal nodules high up in the rectum, the external portions normal, and the subjects with no suspicion of their hemorrhoidal tendency.

Atropin in Asthma. RIEGEL.—It has been the writer's experience that a subcutaneous injection of .5 to 1 mg. of atropin during the attack will relieve or arrest it, and that the attacks with this treatment grow less and less frequent, and finally altogether after it has been [illegible] istered [illegible] way times.

Wiener Klinische Rundschau, Dec. 10, 24 and 31, 1899.

Experimental Investigation of Knee-Jerk with Injury of Upper Spinal Cord. A. MARGUELIES.—The knee-jerk was permanently increased in rabbits and dogs after the spinal cord had been cut across between the fifth and sixth cervical vertebræ, while it was abolished completely in others in which the spinal cord had been crushed by the blow of a hammer on a wedge or by direct crushing with a blunt instrument inserted inside the dura. The difference in the nature of the injury evidently determines the nature of the results, possibly on account of the shock which accompanies a crushing injury. Reviewing Sherrington's experience with monkeys and this research, and comparing them with experiences in human pathology, it seems probable that the permanence of the effect depends on the intensity of the lesion and also on the rank of the subject in the animal kingdom. In man the knee-jerk is always abolished for a long period after total division of the spinal cord, and occasionally after partial. In monkeys it is abolished for about three weeks; in the lower animals for a still shorter interval and soon reappears with merely partial injury. These facts impart increased value to the knee-jerk as an indicator of the severity of the lesion, of the prognosis and of the necessity for surgical intervention.

Electrodiagnostic Studies of Motor and Sensory Excitability in Nervous Diseases. J. ZANIETOWSKI.—This communication exalts "condenser discharges" above the usual galvanic or faradic current as a much finer quantitative test of progressing and retrogressing pathologic changes in cases of increased or diminished excitability. This is especially important in the diagnosis of incipient stages, momentary latency, exacerbations, simulation, etc. Condenser discharges are easily manipulated and applied; the nature of the excitation is known, and can be expressed in exact unities, and they supply an excellent basis for comparative tables. They may even prove to be a qualitative test for certain affections, such as dystrophia muscularis progressiva and Thomsen's disease. He begs others to apply and study them, anticipating that perhaps better methods of treating nervous affections may be deduced from more careful study of their manifestations by this means.

Wiener Klinische Wochenschrift, Dec. 14 and 28, 1899.

Plague Research.—WEICHSELBAUM, ALBRECHT and GHON.—This comprehensive report of the Austrian committee sent to India to study the plague, includes its subsequent experimental research and the Trieste case, which explains the outbreak of the plague in places supposed to be uncontaminated. There were no anatomic nor clinical indications of the identity of the disease to be found in this case beyond "pyemia of unknown origin" with roseola vanishing on pressure toward the last. The abscess-like foci were disseminated through the liver, spleen, kidneys, lungs and in the quadriceps on both sides. Only the discovery of plague bacilli in these foci established the diagnosis post-mortem. Such a case of unsuspected plague might easily start an epidemic. The disease had a more chronic character than usual in this case, thirteen days and more. The committee recommend guinea-pigs as the best animals for experiments, and the best method, inoculation by rubbing the cultures on a shaved spot, preferably one of the hind legs. The characteristic primary bubo of the group of lymph glands in the region can be detected in twenty-four to forty-eight hours by this method, using the sputum, saliva, feces or urine, according to the localization of the lesions or the contents of the bubo derived by puncture or an incision, which latter they deem an advisable therapeutic measure.

Influence of Mechanical Excitation of the Liver on the Heart. M. HEITLER.—The writer reported in 1896, that in certain cases of arrhythmia the variations in the pulse correspond to variations in the size of the heart, liver and spleen: with large area of heart dulness and small pulse, the area of dulness over the liver and spleen was limited and vice versa. A striking observation of this peculiarity was recently observed which also presented another phenomenon: when the liver was tapped or shaken the small pulse became large and full and the heart area smaller. The subject was a young man of vigorous aspect, who, after a severe course of study, complained of headaches, vertigo, palpitations. The heart sounds and the pulse varied in intensity from day to day or hour to hour. The pulse varied remarkably with mechanical stimulation, tapping or shaking the heart region and still more the liver region. This effect lasted from one-half minute to ten. Mechanical stimulation of other parts of the body had no effect on the pulse.

Two Cases of Primary Carcinoma of the Tube. J. FABRICIUS.—Both patients were women of 41 years, and the right tube had already been removed in one on account of a papilloma, which suggests that the carcinoma had developed from a similar growth in the left tube. The second case was alveolar and this had possibly also developed from a primary papilloma. The first was diagnosed correctly; the second was supposed to be a hydrosalpinx on account of the copious watery discharge noted for two weeks, then ceasing for ten to twelve days, when it recurred again and continued as before. The first symptoms were pain in the sacrum and the back. Intestinal disturbances have been sometimes noted, but the most important indication is the behavior of the menses, irregularities or hemorrhages after the menses have stopped, or the watery discharge noted above. Tubal carcinoma seems especially liable to early metastasis.

Transplantation of Ovaries. E. KNAUER.—The ovaries which Knauer transplanted in rabbits in 1896 not only healed in place and continued their ovum-producing function, but the functional activity persisted as long as in the normal animal, about three years, and the organ was found similar in every respect to the normal physiologic organ at this stage. One of the rabbits had a litter after transplantation. Experiments with ovaries transplanted from one rabbit to another were failures. Halban has found that if the ovaries are removed from newly born animals, the rest of the genital apparatus remains infantile but if the ovaries were not removed entirely but merely transplanted elsewhere, the genital organs developed normally. In all the cases in which the ovaries healed in place the specific tissues were found well developed, and even a scrap of tube found clinging to one of the ovaries showed normal ciliated epithelium. Experiments have been in progress for some time with testicles transplanted into females and ovaries into males.

Chronica Med. Mexicana (Mexico), November, December and January.

Maximum Dose. E. L. ABOGADO.—The doses of opium given as the maximum in the various pharmacopeias of the world are compared in a table, showing the amazing differences between them. The dose of the powder, for instance, according to the French Codex is 1 to 10 centigrams; German, 15 to 20, and Foy's formulary gives 4 to 5 grams as the maximum dose. The writer urges the general adoption of the statement of the *initial* dose for an adult, leaving it to the physician to determine how much this can be increased by observation of the effect on the patient.

Revista Medica (Mexico), Nov. 15, 1899.

Local Anesthesia Previous to Thermocauterizing. D. MEJIA.—Two parts of ice to one of salt, with which half a yard of prepared intestine is filled and both ends tied, is the simple means of inducing local anesthesia which Mejia has been using successfully for years, previous to applying the thermocautery. The packed gut is wound in a flat coil over the spot to be cauterized, and left for eight to twelve minutes, never longer, as this would compromise the vitality of the tissues.

Chronica Medica (Lima, Peru), Nov. 15 and 30, 1899.

Pathologic Histology of Peruvian Verrugas. O. HERCELLES.—One month every year is devoted, by the profession in Lima, to the memory of young Carrion, the martyr to science a few years ago, who became convinced that Peruvian verrugas and the disease known as Oroya fever were identical, and to prove it inoculated himself and recorded a remarkable study of the disease as it progressed to a fatal termination. His last words to his confrères were: "I have commenced the work and leave it to you to finish." Odriozola has since published a classic volume on the subject and every year some contribution is offered. This year it is an illustrated histologic study of the verrugas, which establishes the fact that each lobule is merely the result of reaction of the tissues to a lesion of a blood-vessel induced by the verrugas germ. The vessel is the starting point of the morbid process, the center around which the lobule develops, and the lobule is nothing but the manner in which the organism reacts to the verrugas germ. The opening of a vessel is seen in the center of each cross-section of a lobule.

Societies.

Winnebago County Medical Society.—The annual meeting of this Society was held in Rockford, Ill., January 16. The election of officers resulted in: president, T. N. Miller; vice-president, P. L. Markley; secretary and treasurer, J. H. Frost.

Bradford County Medical Society.—The annual meeting of this Society was held at Towanda, Pa., recently, and the following officers elected: president, W. F. Harshburger; vice-president, M. C. Hunter; secretary, S. M. Woodburn; treasurer, F. D. D. Newton.

Chester County Medical Society.—The January meeting of this Society was held at West Chester, Pa., the 9th. The following officers were elected: president, Edward Kerr, Downington;; vice-presidents, Jacob Price, of West Chester, and Dr. Neil, of Coatesville; treasurer, Mary H. Smith, Parksburg; secretary, S. H. Scott, Coatesville.

Atlantic City Academy of Medicine.—The Academy held its annual meeting at Atlantic City, N. J., recently, and elected the following officers: president, W. Blair Stewart; vice-president, Edgar Darnall; secretary, Theodore Senseman; treasurer, Walter Reynolds.

Pasadena Medical Society.—The meeting of this Society was held in Pasadena, Cal., the 13th, for the purpose of electing officers for the ensuing year, and the result was as follows: president, J. H. McBride; vice-president, Dr. Abbott; secretary and treasurer, J. E. Janes.

Alameda County Medical Society.—The annual election of officers of this California Society was held at its annual meeting at Alameda recently, and resulted as follows: president, Joseph Milton; vice-president, H. N. Rowell of Berkeley; secretary, Mira Knox; treasurer, Carl Krone.

Lebanon County Medical Society.—At the election of officers held by this Society at its recent meeting, at Lebanon, Pa., the following were chosen: president, E. E. Grumbine; vice-presidents, U. G. Risser and S. P. Hilman; secretary, C. M. Stuckler; treasurer, A. S. Reiter.

Leavenworth County Medical Society.—This Kansas Society held a session in Leavenworth on the 11th inst., and elected officers for the ensuing year, as follows: president, Dr. McNeary of the Soldiers' Home; vice-president, S. B. Langworthy; treasurer, Dr. Van Emen; secretary, J. R. Weber.

Buncombe County Medical Society.—At a recent annual meeting of this Society, held at Asheville, N. C., the following officers were elected: president, H. L. Boyd; vice-president, F. P. Cheesborough; treasurer, C. V. Reynolds; recording secretary, J. T. Sevier; corresponding secretary, E. R. Morris.

Lackawanna County Medical Society.—The annual election of officers of this Society, which held its meeting in Scranton, Pa., recently, resulted as follows: president, L. Wehlau; first vice-president, Anna Law; second vice-president, Henry Gibbs; secretary, F. W. Davis; treasurer, L. M. Gates.

Warren County Medical Society.—The regular monthly session of this Society was held in Mirror, Pa., on the 9th inst. Election of officers for the ensuing year resulted as follows: president, O. S. Brown; vice-presidents, C. J. Frantz and J. J. Knapp; treasurer, John Curwen; secretary, J. R. Durham.

Delaware County Medical Society.—This Society held a meeting in Chester, Pa., January 12, and elected the following officers: president, David M. McMasters, Ridley Park; vice-president, Dr. Gallagher, Glen Olden; secretary, L. F. Fussell, Media; treasurer, D. W. Jeffries, Chester; librarian, Samuel Trimble, Lima.

Toledo Medical Association.—At the annual meeting held the 12th, by this Association, the following new officers were elected for the ensuing year: president, William H. Fisher; vice-president, C. William Newton; recording secretary, Charles P. Wagar; corresponding secretary, Nelson H. Young; treasurer, James A. Duncan.

Franklin County Medical Society.—This Society met in Chambersburg, Pa., January 16. The following officers were installed: president, H. C. Devilbliss, Chambersburg; vice-presidents, J. C. Greenawalt, of Chambersburg, and A. Barr Snively, of Waynesboro; recording secretary, J. J. Coffman, Scotland; corresponding secretary, H. V. Bonelbrake, Chambersburg; censor, R. W. Ramsey, Chambersburg.

Venango County Medical Society.—This society held its bi-monthly meeting in Franklin, Pa., the afternoon of the 16th, and elected the following officers for 1900: president, J. M. Murdoch, Polk; vice-president, William Varairan, Titusville; secretary, E. W. Moore, Franklin; treasurer, C. W. Coulter, Oil City. The next meeting will be held in Oil City on March 20.

Eastern Ohio Medical Society.—The following officers were elected at the recent session of this Society, held in Steubenville, Ohio: president, W. L. Carroll, Toronto; vice-presidents, J. W. Martin, of Unionport, W. A. Hobbs, of East Liverpool, J. E. Miller, of Cadiz, and A. R. Ong, of Martin's Ferry; recording secretary, J. F. Purviance; corresponding secretary and treasurer, J. C. M. Floyd.

Rocky Mountain Inter-State Medical Association.—At the last regular meeting, held in Salt Lake City, Utah, the following officers were elected: C. K. Cole, Helena, Mont.; first vice-president, Leonard Freeman, Denver, Colo.; second vice-president, R. Harvey Reed, Rock Springs, Wyo.; treasurer, Charles G. Plummer, Salt Lake City, Utah; recording secretary, Donald Campbell, Butte, Mont.; corresponding secretary, S. D. Hopkins, Denver, Colo. The next meeting will be held in Butte, Mont., Aug. 28 and 29, 1900.

Western Surgical and Gynecological Association.

Proceedings of Ninth Annual Meeting, held at Des Moines, Iowa, Dec. 27 and 28, 1899.

FIRST DAY—MORNING SESSION.

After an address of welcome by Dr. Lewis Schooler, which was responded to by Dr. B. B. Davis, and the presentation of the report of the Committee of Arrangements the reading of papers was begun.

SURGERY OF BILIARY PASSAGES.

DR. B. B. DAVIS, Omaha, Neb., read a paper based on an experience in seventeen cases. The writer limited his remarks to: 1, infections; 2, adhesions to surrounding viscera, and 3, gall-stones. Three main routes were given by which bacteria reach the bile tract: By way of the portal vein, by way of arterial circulation, and by migration up the common duct from the duodenum. Pus in the gall-bladder and duct were deemed an absolute indication for operation, as were the existence of painful adhesions that give rise to chronic invalidism.

Considering their etiology, the writer was convinced that all gall-stones are the result of infection combined with poor drainage. Mucus, pus and clumps of bacteria were thought to be the nuclei about which cholesterin and other bile salts are deposited, and without such a nucleus, it was impossible for gall-stones to form.

The writer asserted that after all gall-stones and sand had been removed, and thorough drainage and irrigation kept up until all inflammation and irritation had subsided, recurrences are unknown without a new infection. This was made the reason of a plea for careful and thorough drainage after every operation, the so-called "ideal" cholecystotomy being condemned.

A case was reported in which anastomosis of the gall-bladder with the duodenum was accomplished by means of a Murphy button, for cicatricial stenosis of the common duct. The tissues gave way and almost all food ingested made its way out through the fistula, death resulting from starvation twenty-five days after the operation.

Another interesting case of perforation of the cystic duct by pressure of a sharp corner of a large impacted stone was reported.

HOW TO PREVENT AND HOW TO TREAT UNUNITED FRACTURES.

DR. A. C. BERNAYS, St. Louis, Mo., followed with a paper on this subject. His experience was based on notes of 20 cases of ununited fracture of the femur, 12 of the humerus, 8 of the patella, 11 of the tibia, 6 of the ulna, 1 each of the radius, the metacarpal bone of the index finger, the clavicle, and 2 of the inferior maxilla. Those were treated in a surgical practice of twenty-three years. He laid great stress on the point that repair takes place in all diseases or injuries most quickly and satisfactorily under the influence of rest. The reason why the aseptic and antiseptic methods of wound treatment are better

than all previous or older methods is because they keep away from wounds the most mischievous agents of unrest that can possibly affect wounds. To give rest should always be the chief aim of the art of surgery, and the surgeon who practices his art in such a manner as to secure the most perfect rest possible under the circumstances, for the diseased or injured parts which he treats, will be the most successful surgeon.

Dr. Bernays drew the following deductions in closing his paper:

1. The antiseptic and aseptic methods of wound treatment are better than all previous methods, because they help to insure physiologic rest to injured tissues by preventing the condition of unrest known in medical literature as infection.

2. Non-union of a simple fracture is always due to a constitutional vice if it follows after proper and long-continued approximation and fixation. 1 Non-union can, therefore, always be prevented by proper approximation and immobilization in the absence of a constitutional vice. 2. It follows, then, that an unknown or a known form of constitutional vice must exist in cases where non-union results after proper approximation and immobilization of a fracture. 3. It is furthermore clear and must be maintained by all surgeons, that if proper approximation and immobilization are practiced and continued for a long time, the attending surgeon can not be held responsible for a resulting non-union. The non-union must have been due to an existing constitutional vice which can not always be recognized.

3. If, after a certain length of time, the dressing, cast, splint, or apparatus is removed and non-union is found, there are only three conditions possible: *a.* The dressing, cast, splint or apparatus failed to properly approximate and fix. *b.* The time of treatment was too short. *c.* There exists a constitutional vice. The first of these three possibilities is by far the most common and is the cause which, when recognized, can be easily removed.

4. After all of the known methods of treatment of ununited fractures, be they the simple bloodless friction of the ends or any of the bloody operations, such as drilling, nailing, wiring, sawing, or clamping, approximation and immobilization must be maintained in order that bony union or consolidation may take place.

5. The so-called ambulatory treatment of fractures of the lower extremity, while often giving good results, will be followed by delayed union or non-union more often than the treatment in bed, because of failure to secure proper rest.

6. In old cases of non-union of simple fractures, it is a good plan to save all of the chips or sawings of the bone which are removed when preparing and shaping the ends, and to replace them between and around the fragments or ends of the bone before removing the Esmarch bandage. After the tourniquet is removed, the whole wound and the spaces between the fragments and chips will be filled with blood, and if one has been aseptic, the best plan will be to close the wound entirely and put to rest with a view of leaving the dressing untouched for a period of from seven to ten weeks.

7. In cases of fracture of the long bones, the use of an anesthetic for the purpose of getting perfect apposition and fixation is indicated.

8. The old rule that the joint above and below the fracture must be included in the immobilizing apparatus, cast or splint, can never be safely broken. It is a good rule and should always be observed.

FIRST DAY—AFTERNOON SESSION.

DR. JAMES E. MOORE, Minneapolis, Minn., read a paper on "Acute Suppurative Arthritis of Children," which will appear in THE JOURNAL.

DR. CHARLES C. ALLISON, Omaha, Neb., followed with a paper on "Acute Infective Osteomyelitis."

DR. J. E. SUMMERS, JR., Omaha, Neb., contributed a paper on "Surgery of the Common Bile-Duct," which will appear in THE JOURNAL.

THE VAGINAL ROUTE.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo., read a paper on this topic. He said that in choosing between the vaginal and suprapubic routes, the one should be selected in each individual case which will offer the greatest advantages for complete work, with the least possible danger to the patient; or where complete work is inadmissible, as in some cases of pelvic abscess, the most favorable route should be selected for incision and drainage.

In defense of the vaginal route in dealing with pelvic inflammation, it is claimed that through an anterior or posterior incision the fundus can be delivered through the incision, the ovaries and tubes in turn delivered, and radical or conservative work practiced. That such work can be done in many instances is true, but it can be done better, with less risk to the patient and with more perfect results in the vast majority of cases of pelvic inflammation through the suprapubic route. The Trendelenburg position offers superior advantages in dealing with this class of cases. The chief objection that has been offered to it is that with the pelvis on such a recline, the drippings from the pelvis are likely to enter the abdomen. The essayist has sought to overcome this objection by the construction of a table which somewhat modifies the Trendelenburg position; the patient is placed in this position and allowed to remain eight or ten minutes, while the abdomen is given a final treatment preparatory to operation. She is then drawn six inches higher up on the table, the pelvis now resting on a level plane six inches wide. The intestines will have gravitated while the patient occupied the Trendelenburg position, and will not be affected by drawing the patient higher, allowing the pelvis to rest on the level plane. This modified position offers, in his judgment, all the advantages of the Trendelenburg, and a few superior ones.

Where an operation can be performed as safely and as completely through either route, then he would give the vaginal route the preference. The vast majority of women will submit to an operation through the vaginal route with less apprehension than where the incision is to be made in the abdomen. Indeed, very many women will submit to an operation through the vaginal route who would not submit to an operation through the suprapubic. The occurrence of ventral hernia and abdominal scars deserves consideration only where an equal choice between routes is to be considered.

The essayist then pointed out a class of cases which can be safely operated on through the vaginal route, and among them he mentioned interstitial or subserous uterine fibroids. Vaginal hysterectomy may be performd in any of the varieties of uterine fibroids where the size of the tumor will warrant such a procedure. Retrodisplacements of the uterus, adenocystoma of this organ, and many cases of tubal pregnancy could be dealt with through the vagina.

Dr. Campbell cited some cases where it would not have been good surgery to have operated by the vagina. In multiple abscess cases with the so-called spider-web adhesions, he considers it impossible to successfully treat them through the vaginal route. He is willing to give the preference to the vaginal route in all cases where either route may be selected with equal chances in doing conservative complete work. However, he is not convinced that the vaginal route offers equal advantages with the suprapubic in the majority of cases of pelvic inflammation.

DR. W. JEPSON, Sioux City, Iowa, read a paper entitled "What Should Be Our Treatment of Fractures of the Anatomic Neck of the Humerus Complicated by a Dislocation of the Head?"

FIRST DAY—EVENING SESSION.

At this session President Crowell delivered an address entitled "Some Things." This will be published in THE JOURNAL.

SECOND DAY—MORNING SESSION.

THE X-RAY AND ITS USEFULNESS.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, contributed a paper on this subject. The question of the value of the X-ray in the diagnosis of bone surgery seems to be settled. The author urged the more general use of X-ray examinations by the profession, and pointed out the necessity of great refinement, and experience in examinations on the part of the practitioner, in order to correctly interpret the varying shadows, as well as a thorough knowledge of anatomy, pathology and physics.

As to the usefulness of the X-ray, it detects and diagnoses fractures and dislocations; it sees correctly the position of the fragments of a broken bone, before reduction and after, or

whether the surgeon has a fracture or a dislocation, or both, to deal with.

DR. M. L. HARRIS, Chicago, read a paper entitled "The Longitudinal Wire Suture in Radical Operation for Hernia," which will be published in THE JOURNAL.

DR. D. C. BROCKMAN, Ottumwa, Iowa, followed with a paper on "Oöphorectomy for Functional Nervous Diseases Occurring During Menstruation."

SECOND DAY—AFTERNOON SESSION.

CYSTOSARCOMA OCCURRING SIMULTANEOUSLY IN BOTH OVARIES.

DR. VAN BUREN KNOTT, Sioux City, Iowa, read a paper with this title. The essayist had been unable to find in the literature at his command many cases of double ovarian sarcomata. Eastman, in over two thousand celiotomies, has only once found sarcoma in both ovaries at the same time. Dudley, of Chicago, considers the condition very rare, as does Baldy. Price has operated on a few cases of double ovarian sarcomata of large size, all of which were complicated by universal invasion of surrounding tissus.

The writer reported a case, the points of interest being: 1, the simultaneous involvement of both ovaries by sarcomatous growths, as sarcoma is usually found on but one side; 2, the almost exact similarity of the tumors, it being difficult to distinguish one from the other; 3, the absence of adhesions or the involvement of neighboring viscera, both of which conditions are almost always present with sarcoma of the ovary; 4, the age of the patient (47), as sarcomata usually occurs in early life; 5, the fact that the prognosis in this case would seem to be much better than in the vast majority of ovarian sarcomata where contiguous tissues are usually infiltrated by the disase at the time of operation. He said that it is yet too soon to consider the patient as cured, as the operation was only done three months ago.

CYSTIC TERATOMA OF THE OVARY COMPLICATED WITH HEMORRHAGE.

DR. E. HORNIBROOK, Cherokee, Iowa, presented a paper on this subject. The patient, aged 22, married three years, had one child eight months old, which she is nursing. Always healthy, she was never conscious of any growth or abnormality in the pelvis. She was taken with excruciating pain while straining at stool, fainted and suffered from shock. A small tumor was discovered in the right iliac region, which increased and produced general peritonitis. Celiotomy was performed forty-eight hours after the onset of the symptoms. Death from peritonitis resulted forty-four hours after operation.

The right Fallopian tube was found to have been severed close to the uterus and its end covered with peritoneum; no ovary was found on the right side; the left ovary and tube were normal. The tumor was found attached by a short thick pedicle, to the iliac fascia.

Pathologist's Report.—There was a cystic tumor with a thick outer wall containing a smaller tumor within. The covering of the outer wall, partly peritoneum, contained in a fold a part of the Fallopian tube with its fimbriated end. No ovarian tissue could be discovered. The outer wall contained striated muscle and well-developed bones, the type of which could not be determined. This wall was sacculated and contained blood clots. The inner wall, that is, the covering of the smaller tumor, was found to be dermal tissue with glands and hair. Within this tissue were many pockets or loculi containing either sebaceous matter or blood—the sebaceous matter predominating. In none of the saccules were the blood and sebaceous matter mixed, but separated by distinct walls. Some of the blood was undergoing organization. No ovarian tissue could be found. No placental structures could be made out. The tissues were too well developed to be fetal.

Diagnosis: cystic teratoma of the ovary complicated with hemorrhage.

One end of the Fallopian tube, with its fimbriated end being found in the walls of the tumor and the other end still attached to the uterus, would indicate that the growth commenced in the tube, and developing slowly, amputated the tube and anchored itself to the iliac fascia, where it was found attached. The history of the case and the pathologist's report negative the theory that it might have been ectopic gestation. The recent investigations of Professor Norman, of Texas, and Professor Loeb, of California, were cited to show that the absence of certain chemicals or their effects being neutralized might permit of even the human female being endowed with the potentiality of reproduction, and that "an immaculate conception may be the result of unusual but natural causes."

CONGENITAL HIP-JOINT DISPLACEMENT.

DR. JOHN PRENTISS LORD, Omaha, Neb., read a paper on this topic. Dr. Lord adopted the word "displacement, agreeing with Tubby that "the word dislocation, as commonly accepted, implies separation of those parts of a joint which have never been normally in contact—therefore the word displacement is more accurate. The pathology of veritable cases teaches us that there has been no perfect acetabulum formed from which the head of the femur could have been dislocated."

There are two classes of cases as met with in after years, viz., the truly congenital and the traumatic; the latter form is not probable unless favored by a deficient acetabulum, at the upper part of the rim.

Girls furnish the majority of cases, estimated as high as 88 per cent., because more subject to deformity, according to Dupuytren, who, with others, has observed heredity. The etiology is unknown. The various mechanical and pathologic theories have been mostly discarded. The development theory is supported by pathologic research and is generally accepted.

The symptoms are characteristic and mostly dependent on locomotion. Therefore cases are seldom recognized until walking is begun, the child waddles, has lordosis, which is not conspicuous early, but soon becomes marked in bilateral cases. The limbs are short and slender. The perineum is broad, and feet everted, trochanters prominent above Nélaton's line, and there is exaggerated lordosis. The pelvis becomes altered, the ilia are approximated, and the ischia separated, which improves the female pelvis for parturition.

Any well-informed physician should quickly recognize these cases. In the early years of this deformity the disability is noticeable and, in bilateral cases, the rolling, waddling gait, with a growing tendency to exaggeration of the symptoms resultant on stretching of the soft parts, which yield on fatigue. In persons of good muscular development the conditions remain stationary, and they get along with a fair degree of comfort and have good endurance, but some are much handicapped and suffer acutely, more especially after increase in weight and muscular enfeeblement. The dorsal displacements furnish the worst cases, the anterior and superior displacements the most favorable ones.

The methods of treatment are three: 1. Extension either in recumbent position or by apparatus. 2. Forcible reduction. 3. Reduction by operative measures.

The mechanism of the hip-joint is so defective in these cases that our credulity is taxed to believe that much permanent good can be accomplished short of operative measures. While many successes have been reported, the cases do not seem to have stood the test of time, and quickly relapse without mechanical support.

The Lorenz operation is not a formidable one and is as fully justifiable as many other operations which are done without hesitation. The anterior incision quickly reaches the capsule, and the division of the Y ligament removes the principal resistance in young subjects. The head of the femur is usually easy to retain in the new acetabulum by proper application of plaster above the trochanters, which also includes the trunk and legs, which are maintained in abduction and slight inward rotation.

The uterus should be drained, and only skin sutured at its angles. The plaster dressing should be continued for six weeks, after which an apparatus or a long side splint should be applied for a variable time, to prevent accident, and passive motion be begun and gradually increased. Motion is quite fully restored within a few months. The limp continues for a time, because of muscular weakness and habit, but improvement is progressive, whereas cases without treatment become continually worse. Some limp always remains, because of inevitable shortening in all cases.

The writer exhibited photographs of a boy of 3½ years, operated on by lateral displacement, with five centimeters shortening. The operation, Aug. 20, 1899, resulted in no shock, and in uneventful recovery. He was permitted to walk about in

DR. M. G. SCHLAPP said that the inflammation in the medulla seemed to be a very recent one. There was a small round-cell infiltration, but the large proliferating cells found in the cortex were not present. The infiltrating and the proliferating stage were both represented in the cortex.

DR. DANA, replying to Dr. Fisher, said that, in his experience, dysarthria occurs about as often with right hemiplegia as with left, and that it is practically due to the size of the lesion. If this is very large and the hemiplegia complete, there is almost always dysarthria. Where there is only slight hemiplegia associated with dysarthria, it is probable that the lesion is high up in the cortex, or involves a part of it. He had not thought that this case illustrated aphasia, but rather dysarthria. The weight of evidence in this case seemed to indicate that a paralysis of the tongue was the result of a cortical lesion—a sudden apoplectic lesion. There had been absolutely no hemorrhagic process in the medulla.

UNUSUAL CASE OF LEAD PARALYSIS WITH AUTOPSY.

DR. B. ONUF reported this case. The patient was 37 years of age, and a man of good family and personal history. He had been a painter for many years, and had had one attack of lead colic some years ago. A short time ago he received a severe fall, and for some days afterward seemed dazed. From March to August he did no painting, then began again, with colors containing a large percentage of lead. He kept this up during August, but suffered frequently and severely from colic. At the end of August he became quite ill and, in three or four days, almost helpless in the lower extremities and in the left arm.

On admission to St. Catharine's Hospital, in September, 1899, there was complete flaccid paralysis of both lower extremities; absence of both knee-jerks; marked tenderness of the nerve trunks and muscles of the lower limbs. There was also paralysis of the flexor muscles of the left arm and of the extensors of the fingers. The gums showed a "lead line." The spontaneous pain ceased under diaphoretic treatment. On October 4 he had an attack of severe dyspnea, and on the following morning died in a second and similar attack. At autopsy, the extensors and flexors of the right arm were found wasted, as were also the peroneal muscles and the flexors of the thigh. The left lung was the seat of a bronchopneumonia. Microscopic examination showed what appeared to be a poliomyelitis of the anterior horns. The parts examined so far were the second and fifth lumbar, and here there was an enormous infiltration of the walls of the blood-vessels, with round cells. This infiltration was so extensive as to lead to very general distension of the nerve-cells. The anterior roots were markedly affected, but the posterior ones of the lumbar region were normal. The plantar nerve showed increase of connective tissue and endarteritis obliterans. The liver was examined by Dr. Bookman, but no lead was found. As five weeks had elapsed, such evidence is not of much importance.

DR. L. STIEGLITZ said that this case showed, in the human being, exactly what he found in his case of experimental lead poisoning. In experiments on thirty-six animals he only obtained an acute poliomyelitis at the post-mortem in one guinea-pig, and also cell infiltration and more or less destruction of the nerve-cells around the foci. This guinea-pig had been paralyzed acutely, and death occurred within twenty-four hours. In his experimental cases he obtained, in every instance, changes in the ganglionic cells themselves. The case presented in the paper was an atypical one of lead poisoning, and hence would not justify any conclusions regarding the ordinary pathology of that poisoning. The cases reported by Oppenheim and by Herter seemed to him the most typical.

DR. E. D. FISHER thought the clinical history of this case corresponded more with that of alcohol than of lead poisoning. As a rule, in cases of lead poisoning, the lower extremities are the part first involved. Some years ago he called attention to the occurrence of these degenerative changes in the brain and cord in cases of alcoholism. It, therefore, seemed to him that the case reported combined both alcoholism and lead poisoning. The changes in the central nervous system are quite well established.

DR. W. M. LESZYNSKY said that it also seemed to him that the reader of the paper had not proved the connection between the lead poisoning and the post-mortem findings. The case appeared to be one of alcoholic toxemia, or of some acute infectious process.

DR. HAMMOND said that while it was very probable that the man had suffered from lead poisoning, he very much doubted whether the lead had anything to do with the condition of the spinal cord; it was much more probable that this was the result of some acute infectious process. He did not believe a case of true lead toxemia had been reported in which such changes in the nervous system had been observed.

DR. CUNNINGHAM some weeks ago met with a case of lead palsy in a man who at the same time had developed a mild form of influenza. The phenomena observed were quite similar to those reported in the paper.

DR. COLLINS also took the ground that in addition to the lead poisoning there had been an alcoholic neuritis or some acute infection giving rise to the changes in the spinal cord.

DR. ONUF said that the frequent attacks of colic during the last few weeks the man had been able to work, seemed to show the close connection between the lead poisoning and the other symptoms. Cases of alcoholic neuritis usually present quite a different picture from that exhibited by his patient. The autopsy revealed evidence of a certain amount of alcoholism, but the man had not been drinking for a considerable time previously, and there was no history of an acute infectious process.

Chicago Ophthalmological and Otological Society.

Dec. 12, 1899.

(Concluded from Page 169.)

KERATITIS DENDRITICA.

DR. WILLIAM E. GAMBLE presented a patient who came under his observation ten days before, saying he had had a sore eye for a month previously. At no time had he had severe pain. At times the eye became more sore, accompanied by more photophobia and increased lacrimation. He complains that at about 2 a.m. in each day there is a profuse flow of tears which lasts for a considerable time, after which his eye feels better. As to the appearance of the eye, there was some pericorneal injection and a superficial keratitis. There is no history of foreign body or other injury. There is no history of the patient being ill for several years, excepting that last June he had sore throat with a fever one day, the temperature reaching 103 F. He has not had any herpetic eruption on the face or other parts of the body, nor has he had any catarrhal troubles with mucous membranes. He has lived in Chicago since 1892 and occupies a second flat. His general appearance corroborates this history.

The etiology of this case is not clear. It does not come under the class, keratitis herpes corneæ of Horner, for the reasons above given, i. e., the history shows no herpetic eruption about the face nor trouble with the respiratory tract. However, he did not see the case early enough to determine whether the keratitis began as vesicles or otherwise. Kipp, in 1880, described a series of cases of superficial keratitis complicating malaria, in which the ulceration often assumed a serpiginous form. He called these cases malarial keratitis.

Dr. Ellet, of Memphis, has this year described ten cases of keratitis dendritica, in which an examination of the blood was made. Plasmodia malariæ were present in nine of the cases.

Hansen-Grut, the Danish ophthalmologist, in 1884, described a series of cases that had come under his observation, as being superficial chronic keratitis with a tendency to become serpiginous, which was not identical with Horner's type; neither did he commit himself on the etiology of the cases he described as keratitis dendritica.

The blood of this case was carefully examined for plasmodium malariæ, by Dr. E. L. Brown, assistant pathologist, Illinois Charitable Eye and Ear Infirmary, with negative result. Quinia has no appreciable effect on the progress of the disease. In the absence of more definite knowledge this case might suggest the keratitis dendritica idiopathica, and thereby aid in the classification of these obscure conditions.

DR. F. C. HOTZ—I have seen a number of these so-called dendritic cases in years gone by, and the majority of them, so far as we could confirm our diagnosis of malaria by the efficacy of quinin treatment, were of a malarial nature. In several in-

stances the treatment had been conducted on general principles of keratitis, with atropin, etc., without benefit, or without making any impression on the inflammation. The inflammation, however, quickly subsided as soon as quinin was given. In one case the patient had periodical attacks at regular intervals; he felt very comfortable and the eye exhibited only a slight indication of inflammation on one day; the next day all the symptoms increased, with violent pain, lasting from ten o'clock in the morning until two in the afternoon. In this case quinin broke up the attacks promptly, and in a few days all signs of inflammation had disappeared. I do not think it is claimed that these cases are all of a malarial origin; there are other factors which may bring about a similar eruption, but I am inclined to think that this typical linear ulceration, creeping over the cornea from the margin, and branching out with fine linear offshoots is, in the majority of cases, of malarial origin.

PECULIAR VISUAL PERVERSION.

DR. F. C. HOTZ presented two patients with an affection entirely new to him. The first, a girl of 10 years, was brought by her mother, who two weeks previously had given her medicine for nocturnal enuresis. After she had taken the medicine for one week, her pupils were enlarged, and her sight disturbed, so the medicine was discontinued, but the visual disturbance persisted. Two years previously, in taking medicine under similar circumstances, her sight had likewise been disturbed for some time. She could not read with a book in the proper position, but could do so quite fluently with it upside down. At twenty feet the test types seemed inverted, but when turned upside down the letters appeared straight and she read correctly to the number 30 inclusive. With the 2.5 D. before the eye she could read the same letters as if they were in the right position. But large objects like persons and houses did not look to her to be upside down. The second case presented somewhat similar disturbance in a boy of 6 years, but in this instance no medicine had been given. The boy was not naturally left-handed, but he wrote as we see in a looking-glass: for 18 he wrote 81. He held the book at an angle of 90 degrees, or even upside down, but could not read with it in the correct position. With a 2.5 D. before the eyes he could read with a book in the correct position or while under the influence of homatropin, and five weeks later his mother did not notice any further signs of visual perversion.

DR. HENRY GRADLE—I can not strictly talk pertinently to the subject, as I have never seen any case like the one of Dr. Hotz. His cases, however, remind me of the extensive neurologic literature on reversed or mirror writing. About twenty years ago the attention of neurologists was called to that subject in connection with attempts at writing with the left hand, by patients with right-sided palsy. It was noticed then that many of these patients, in attempting to write would reverse the letters, and in following up the subject it was found that this, too, was not uncommon among the insane, even where there was no motor palsy of any kind. Furthermore, it was learned that children, in first learning to write, occasionally wrote in the same way. As far as I am aware, this subject has not received much attention recently. In this connection it would be interesting to know how the first girl wrote.

DR. HOTZ—I did not test her writing.

DR. GRADLE—The quick recovery of the first girl would lead us to refer the trouble to some central disturbance of a functional character, coming under the head of what is called, with more or less justice, hysteria; but this is simply a term and does not involve any accurate knowledge. It simply means the disturbance of some central process of such a transient character that it can return to the normal on very slight provocation, although it may last almost indefinitely when no interference occurs which returns the innervation to its proper channels.

DR. ALBERT B. HALE—If one might venture an opinion, one could say that this is probably an obliteration of the acquired experiences of the human mind, and a primary interpretation of direct optical phenomena as we are supposed to get them from our visual apparatus.

Some time ago I informally discussed the strange conditions under which my own child was learning his alphabet. I caught him at it one night. He began with A and wrote it in an inverted position. He wrote U inverted and P reversed. For two or three weeks he showed the inversion of type, but soon got over it and has manifested no symptoms of inversion since.

In the *Annals of Ophthalmology*, years ago, there appeared an article by a man in California, who submitted himself to severe tests of patience by arranging a contrivance in which he produced, in the air, an inverted image, and then sat with his head in a box for a week or so until he accustomed himself to the inverted image; he claimed that interpreted the outer world about as well as a person does with experiences of his own and races of past life.

I do not claim this as an exact scientific interpretation. We know that the connection between the optical condition of the retina, and the condition of the brain when interpreting such phenomena is still unexplained; if as we certainly know, there are, in certain abnormal psychic states, lapses of experience and recession to the original and primitive conditions, we may suppose some such analogous process here, with the result of a (temporary) visual inversion.

DR. THOMAS A. WOODRUFF referred to a three-year-old child who, in looking at picture-books, always preferred to have them upside down. This was more noticeable when the child was two years of age than in the last year. If given a picture-book or single picture right side up, she would always turn it upside down, and seemed to see the pictures better in that position. The child is fond of looking at pictures of babies, and often, while turning over the advertising pages of magazines that contain advertisements for baby foods, with pictures of infants, she invariably holds the magazine inverted.

DR. C. D. WESCOTT—That this condition is sometimes a permanent one is illustrated by a case I observed during my student days. I saw a man writing the English language in such a way that I could not make it out. He explained to me, after seeing that I was interested, that he wrote upside down, and when the copy was reversed it looked and read just as English usually is written. He was a man of middle age, and still continued to write the inverted letters. I can confirm what Dr. Gradle has said with reference to the reverse writing of the insane. During my experience as assistant physician at Kankakee, these observations were not infrequent.

DR. A. E. BULSON, Fort Wayne, Ind.—A case similar to the one reported came under my observation a few weeks ago. A salesman, in taking an order, wrote with the paper turned upside down, the writing from his position being upside down. I also noticed that in referring to his catalogue he invariably read with the bottom side up. As agents frequently do this in order to have the print so that the customer can read it, I thought nothing of it until I saw him write the order. On inquiry he told me that he had written this way ever since he was a child, and was unable to write in the ordinary way.

DR. ALBERT B. HALE—In reference to the remarks just made by Dr. Bulson, I should say that this is a trick of many traveling salesmen. They like to have the purchaser read the memorandum at once, and therefore write it upside down. It is an acquired trick, making figures, initials, etc. I have seen it done very well indeed. I regard it largely as acquired merely for business purposes. This would not apply, however, to such a case as Dr. Bulson cites.

Ichthyol in Prostatitis.

A. Freudenberg reports excellent results from the use of ichthyol suppositories in this distressing complaint. Forty cases are referred to, all chronic or in late stages of an acute attack, some of the blenorrhagic origin. He prescribes the following:

℞. Ammon. sulpho-ichthyol..... .3 to .6 or .7 gm.
Ol. theobrom.....2. to 2.5 gm.

M. ft. suppository. N. B.—No "hollow" suppositories. One suppository in the morning after defecation, and another on retiring at night. The effects were often rapid and surprising, the subjective disturbances—pain, pressure, and frequent, painful and slow urination—disappearing, and palpable decrease of the hypertrophy and inflammatory induration of the gland taking place.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 27, 1900.

TRANSMISSION OF TUBERCULOSIS.

Dr. Robison's article, published in this issue of THE JOURNAL, calls to mind the fact that there seems to be hardly any more fully accepted medical opinion than that of the direct reciprocal transmission of tuberculosis between man and cattle. And yet the direct evidence of the fact is, as Adami[1] says, singularly weak. It ought not to be so as regards the communicability of human tuberculosis to cattle, as experimentation is altogether practicable, though as to the transmission of bovine tuberculosis to man it is out of the question. What we need is careful clinical studies, not generalizations from casual or imperfect observation, however probable they may appear. Such statements as the following, taken from a recent report: "There are practically no cases of healthy herds where attended by patients of sanitary institutions. If the inspector looks first at the people on the farm and finds one or two of them that appear to have traces of tuberculosis, he can predict with absolute certainty that he will find the same disease among the cattle," and "the identity of animal and human tuberculosis first announced by Koch, but often disputed since, has at least been demonstrated beyond the possibility of a doubt," are probably true, but where are we to find the demonstration? Are we accepting the results of careful clinical observations and scientific experiments or merely the general clinical consensus of opinion from indefinite and uncriticized experience and observation? There is a certain reverence to general opinion as marked as that to authority, and we know the misleading possibilities of the latter. It would be well if every physician who is convinced that ingestion of milk or meat from tuberculous animals produces tuberculosis in man would give us the evidence in full that leads him to his conviction. If that were done, we could better answer such statements as the recent one of Moore[2], that there is no evidence of the transmission of bovine tuberculosis to man or that of man to cattle.

Can we not obtain from regions adjoining sanatoria, and elsewhere, careful studies that will furnish the incontestable facts, or what we can accept as approximately such, to settle these questions? Further, can we not have definite experimental proof of the identity of human and bovine tuberculosis? Thus far the literature has been too barren in this regard, though positive assertions are the rule. It is not that the danger is doubted, for there must be a basis for so general a conviction, but there should be a fuller possibility of giving reasons for the faith that is in us. There is certainly no lack of opportunity for investigation, and there are very few questions in medicine that are so universally assumed as solved with so little direct evidence of their solution. The need of further data as to the relative pathogenic actions of animal and human tuberculosis is admitted by those who, like Trudeau and Denison, have formally enumerated the problems of tuberculosis. They recognize the fact that we have still much to learn about the matter, but we fail to find a similar modesty in a large proportion of the publications of others who have written on the subject for professional or popular enlightenment.

The impression which is very often received is that our knowledge of the facts is complete and there is no need for further research. The fact is that we are probably only in the beginnings of our knowledge of many of the problems of this disease, and there is a possibility that many of our accepted beliefs will have to be modified, if they are not overthrown. At present we are working with only a vague and imperfect knowledge of many points, the one here discussed being apparently one of these, and less excusably so than many others that present greater difficulties in their investigation.

[1] THE JOURNAL, Dec. 15, 1899. [2] N. Y. Med. Jour., Sept. 2 and 9, 1899.

TREATMENT OF TYPHOID FEVER BY COLD BATHING.

Although water has been employed for therapeutic purposes more or less systematically for upward of one hundred years, it is only since the publication by Brand, in 1861, of his monograph on the "Hydrotherapy of Typhoid Fever," that the usefulness of this agency has received at all general recognition. Further time was required before the method of Brand was universally accepted, and this result was brought about only by the reduction in mortality that was demonstrated to take place as a result of its adoption. Brand recommended immersion of the typhoid patient for fifteen minutes in water at a temperature of 68 F., whenever the temperature, taken in the rectum every three hours, reached 102.2 F. This formula is, however, not an inflexible one, and its elements may be varied, in accordance with special conditions that may be present, or particular results that may be desired. Thus, the frequency of bathing may be diminished, the temperature of the water raised or lowered, the time of immersion lengthened or shortened, in accordance with the conditions present in the individual case. In general, however, the best results are obtained from a faithful adherence to the fundamental regulations.

The cold bath is not directed merely against the fever or the elevation of temperature—it is not simply an antithermic or an antipyretic measure; otherwise, the same results might be brought about by any of a large number of modern products of the laboratory capable of this effect. The bath, however, does this and much more besides. It influences, in fact, the entire course of the disease; it stimulates the circulatory—regulates and slows the heart, improves the pulse—the respiratory—slows and deepens the breathing—and the secretory functions—heightens metabolism generally, increases the secretion of urine—and those of the nervous system

—subdues headache, overcomes restlessness, clears the sensoria, induces sleep. The most important result of all, however, is the reduction in mortality. The death-rate from typhoid fever subjected to any or all other forms of treatment has long averaged from 18 to 20 per cent., while, in large numbers of cases submitted to the cold bath, it has averaged between 7 and 8 per cent., and there is striking agreement in this respect between the results obtained, not alone in Germany and on the Continent of Europe, but also in England, in Australia, and in the United States, in fact, wherever the cold-bath treatment has been faithfully and intelligently employed. To the statistics already published, Baumler[1] adds the results of observations made in the Medical Clinic at Freiburg from Oct. 1, 1876, to Sept. 1, 1899. During this time there were treated with cold baths 1019 patients—575 males, 444 females—suffering from typhoid fever, with 95 deaths (57—9.91 per cent. in males, 38—8.55 per cent. in females)—9.32 per cent. These figures include all cases, without reference to the severity of the attack, to the time of admission and of death with relation thereto, to the presence or absence of complications and sequelæ, and to the causes of death. Making allowance, however, for cases admitted moribund or with incurable complications, and for those in which death occurred from tuberculosis after recovery from typhoid fever, the mortality was only 7.9 per cent. —8.58 per cent. in males, 7.37 per cent. in females. These figures agree closely with those of Tripier and Bouveret in Lyons, of Osler in Baltimore, of Wilson in Philadelphia, and of Hare in Brisbane.

[1] Deutsches Archiv. f. Klin. Med., B. lxvi, p. 21

ARTERIO-RENAL DISEASE IN EARLY LIFE.

Some of the statements made recently in these columns (p. 179), with regard to the occurrence of interstitial changes in the liver, particularly in young persons, are susceptible of general application to analogous changes in other tissues and organs. The danger from all conditions of this nature depends on the establishment of a vicious circle, in which hyperplasia of the interstitial tissue either takes place primarily or occurs as a result of previous destruction of parenchymatous tissue, and this in turn causes further destruction of parenchymatous elements, this process continuing until it reaches a degree that is incompatible with the continuance of life. It is likely, further—in fact it is the rule—that that same process may involve many organs and tissues contemporaneously or successively, though, as observation has shown, in varying degree. This fact would seem to indicate that the different organs exhibit differences in respect to their response to the same irritant, and it may be anticipated that a certain selectiveness of action, perhaps a certain specificity, may be looked for in this connection. In any event the changes that we are discussing are those that are in a general way responsible for physiologic senility, and which are exemplified in the degenerative process designated arterio-sclerosis; and it may be that, as Metschnikoff is recently reported to have stated, we shall be able to prolong life when we have acquired the ability of preventing the early or the excessive deposition of interstitial connective tissue or of causing its disappearance when once it has formed.

For the present at least, that degree of prophylaxis is possible that consists in the avoidance of those irritants that are known to give rise to the morbid process under consideration. It is a generally accepted fact that arterio-renal disease is not a common condition in the young, but recent clinical observation would seem to indicate that it is not so rare as it has hitherto been considered. In fact, it has even been encountered as a congenital condition. Perhaps it would be found oftener if it were more frequently looked for. On general principles one might suspect that the delicate tissues of the young would be more sensitive to irritating influences than the more mature and more resistant tissues of the adult; although children, on the other hand, are not, as a rule, so much exposed to the action of these irritants.

To the small number of cases on record in which chronic arterio-renal disease has developed in childhood, without evidence of previous acute disease of the kidneys, Brill and Libman[1] add another that presents, besides, other points of more than ordinary interest. The patient was a girl, 14 years old, who had always been weak and undersized. Dyspnea was easily induced. Menstruation had not appeared. The face and the cheek had been swollen a year before coming under observation. Cough and expectoration had been present for a short time. The only illness had been an attack of gastro-enteritis at the age of 6 months. There was no evidence of syphilis. A day following a fright the child was found paralyzed on the left side of the body, with rigidity, and some twitching in the affected parts. Headache was present with fever, and slight hemoptysis. The heart was enlarged, and systolic murmurs were heard at the apex and the right base, while the second sound was accentuated and at times duplicated. The radial arteries were tense, thickened, and tortuous. The urine contained albumin and hyaline and granular tube-casts. The condition of the patient grew gradually worse; signs of hemorrhagic infarction of the lungs, the spleen, and the superior mesenteric artery became evident; pericarditis developed; and death ensued after the lapse of some eight weeks. On post-mortem examination in addition to the infarction of the lungs and the cardiac hypertrophy, the aortic valves were found moderately atheromatous, and segments of the mitral valve slightly thickened. The aorta contained patches of atheroma, especially about the openings of the coronary arteries, and these vessels were markedly atheromatous. Patches of atheroma were present also on the endocardium, between the aortic and the mitral valves, and also on one cusp of the mitral valves. The kidneys were exceedingly small and red; the right weighed 59 grams, and was

[1] Jour. of Exp. Med., iv, 5. 6, 541.

9x4x3 cm. in size; the left weighed 34.5 grams, and was 6.5x3.5x2.5 cm. in size. Their capsules were adherent, the surface irregularly granular, the renal substance firm, the cortex narrow. While there was hemorrhage into the mesentery, no embolism nor thrombosis could be found in the mesenteric vessels, although the superior mesenteric artery was markedly atheromatous. The liver was enlarged, firm and congested, with an increase in its connective tissue. On microscopic examination the lungs exhibited brown induration, with increase in the interstitial connective tissue. The capsule of the liver was thickened, the capillaries of the organ dilated, and there was a little increase in the interstitial connective tissue. The liver was degenerated and pigmented. The hepatic veins were dilated and their walls thickened. The arteries exhibited a marked degree of obliterative inflammation. Areas apparently following the course of the hepatic artery were the seat of lime-deposits. The arteries of the spleen, also, were the seat of marked obliterative inflammation. Both kidneys were the seat of an intense interstitial inflammatory process. The intima of the coronary arteries was greatly thickened, and the seat of extensive calcareous deposits and necrosis, with fibroid metamorphosis of the media. The superior mesenteric artery exhibited irregular thickening of the intima and the media, with small calcareous deposits in the intima. Examination of the blood fourteen hours before death, and also of that from the heart after death, disclosed the presence of the staphylococcus albus, but no especial significance is attached to this, as the death-agony was prolonged. Two other children in the family, likewise, presented evidences of arterio-renal disease.

MEDICAL EDUCATION.

There is a tendency toward premature specialization in some of the schools of medicine in America, the result of better equipment of laboratories as well as the spirit of investigation that has been breathed into our youth from the universities of Germany. It is, however, a tendency to be modified, and to be criticised.

Investigation and original research is the soul of progress, and every medical school should offer the most ample facilities that its exchequer will permit, to encourage original progressive research work within its walls; but the student who is preparing himself to be a thorough, conscientious practitioner of medicine has all he can do to grasp the principles that form the basis of his studies. President Dwight, of Harvard Medical School, in a discussion of the "Position that Universities Should Take with Reference to Education[1]," Dec. 25, 1899, says: "We must look to it that the candidate for the degree of M.D. be not robbed of his time, none too long, for learning medicine as an art, by specially conducted excursions into abstract science."

President Eliot says that a university that is not a place of research will not long continue to be a good place for teaching. It is true that the stimulus that comes from the association with a professor who is himself actively engaged in original work is nearly always greater than that from a man who merely collects the material of other men. It is also true that work in laboratories in which active research is being conducted is more inspiring than work in laboratories that serve merely as class-rooms for a certain prescribed routine. If a student has a tendency toward investigation he should be given the opportunities afforded him by the university; but instead of being encouraged to produce unripe fruit in the ambitious twenties, and being left to wander in the mazes of technic and the intricacies of theoretic disputes, he should be trained to sharp, definite conscientious work that will enable him, when he is more mature, to draw ideas from the disassociated facts that are constantly being accumulated in the laboratories of this country. President Dwight says: "The born investigator (and no other is worth much trouble) no more needs encouragement to investigate than a fish does to swim."

The medical school, for its own fame, would much better equip research laboratories, pay an investigating professor an ample salary and provide him assistants for detail technique, than to force men of an investigating spirit to seek private laboratories and do independent work. But all this should be to save the time of the medical student, to add the latest results to the facts he must know, and to present them to him in the way that he can best grasp and put them into practical use.

As a means of instruction, training in research methods is slow and cumbersome, and our medical colleges are in danger of too extensively substituting this round-about training for more direct methods of instruction. A certain amount of training in research methods stimulates the perception and increases the power of self-guidance, but the student-physician can not afford to get his experience along these lines to the exclusion of others. He must get all that accumulated experience has to offer before he starts off to acquire knowledge on his own account: otherwise his education is a narrow, spindling structure, and his judgment dwarfed and immature.

CELERY AS A VEHICLE OF INFECTION.

The dangers of typhoid from truck-gardens, with their free use of fertilizers from all sources, has been often pointed out. A rather striking object-lesson is reported from one of the Eastern states where an epidemic of fever occurred in one of the state institutions. It was found that the disease could apparently be traced to the use of celery grown on some sewage-fertilized grounds, the practice of banking up the stalks making these plants specially adapted to receiving and holding the germs. As soon as the use of the plant was stopped the epidemic diminished, and finally ceased altogether. These facts indicate the need of a caution in using this popular vegetable, which, with its corrugated stems, etiolated by banking up with earth often saturated with fertilizers of one kind or another, and generally eaten raw, might

[1] Science, January 12.

very possibly carry the germs of disease. The danger is not great or we would hear more of it, but that it may exist occasionally, the above case seems to prove. It is not intended here to advise against the eating of celery, but only to suggest that it be well cleansed first, and to call the attention of physicians to what may be a possible cause of some rare cases of disease of obscure etiology.

THE ORIGINAL OF MULTIPLE LIPOMAS.

Many are the theories that have been advanced in regard to the origin of multiple lipomas. The relationship of some lipomas to the nervous system is shown both by clinical and anatomic observations. Askanazy[1] traced the development of multiple lipomas to lymph glands which were finally wholly replaced; this process could be followed clearly in the mesentery and in an anthracotic gland in the neck. The physiologic paradigm of this replacement is seen in the fatty transformation of the thymus and of bone marrow. The fact that in Askanazy's case death resulted from a sarcoma of the neck that had extended to the pharynx and to the thyroid recalls the declaration of Thomas Curling[2], in 1850, that lipomas of the neck depend in some way on disturbances of the thyroid functions.

THE CONJUNCTIVAL SAC AS PORTAL OF INFECTION.

From Römer's[3] experimental studies of infection from the conjunctival sac, we learn that in the case of the rabbit and the guinea-pig, the conjunctival sac is an extremely dangerous route of general infection, as dangerous as, if not more than, any and all other recognized routes; it is not necessary to produce any preliminary injury to the tissues, severe general infection may result from the introduction of microbes into the intact conjunctival sac, and in a large percentage of such cases the resulting septicemias progress more rapidly than when the germs are introduced into the subcutaneous tissue. The germs do not enter the general circulation by way of the conjunctiva itself; it remains protected by its anatomic structure and by being constantly bathed with tears. The resorptive activities of the nasal mucous membrane play the principal part in the general infection; Römer demonstrates, by means of histologic sections, that fine corpuscular elements, such as powdered carmin, introduced into the sac of the conjunctiva, reach the nose by way of the tear passages, and are then taken up by the epithelium of the nose and deposited in the submucous lymphatics. In general infection from the conjunctiva the nasal mucosa is the entrance point. His studies are of interest as to the mode of infection in various forms of acute meningitis. The nose has long been held as a probable route of entrance. As shown long ago by Key and Retzius, the lymphatics of the submucous tissue of the nose communicate with the dura and arachnoid by way of spaces in the sheaths of the olfactory nerves. Micro-organisms, which reach the lymph-vessels of the nose, have thence a straight road, so to speak, to the lymphatics of the brain, and it may be that the nose is reached from the conjunctiva more commonly than now believed. Römer emphasizes the fact that dust is of importance, especially in local infections of the conjunctiva, because it not only produces epithelial lesions, but under its influence the bacterial content of the conjunctival sac rises above the normal.

1 Virchow's Archiv., 1899, 158, 413.
2 Medico-Chirurgical Transactions, 1850, xxxiii, 103.
3 Ztft. f. Hyg. u. Infektionskr., 1899, xxxii, 295.

MEDICAL EDUCATION IN INDIANA.

The State Board of Health of Indiana evidently intends to take a hand in the supervision of medical education in that state. At a recent session of the Board, as noted in our Indiana news, a resolution was adopted requiring each medical college to annually furnish a report of the number of students in attendance, the percentage of attendance of students on lectures, and other particulars bearing on the question of thoroughness of instruction and the qualifications of the graduates. It also concluded, according to the report given to the press, to make annual visits to each college to see that they are keeping up to the required standards. If this plan is carried out thoroughly, the medical colleges of Indiana ought to be forced up to a high standard of excellence. We are not informed as to the details of the legislation qualifying the State Board of Health, but it certainly has a comprehensive understanding as to its functions, and there must have been a liberal allowance of power allotted to it by law. Properly and judiciously exercised, such powers ought to be the cause of great benefits to the state, and this latest move is, we think, in the right direction. If the Board has no more than a merely advisory function in this supervision of medical education it will be possible for medical colleges to go their own way without regard to it, but the probability is that its influence will be felt. The power to judge of the "good repute" of any and every institution of medical education certainly ought to be effective within the jurisdiction of the Board. The medical colleges of Indiana are not that kind always ready to place obstacles in the way of progress toward the higher standard so earnestly sought after by the better men of our profession, and so we may expect to see them co-operate with the Board, and hence great good result.

RELATION BETWEEN MALARIAL INFECTION AND EPILEPSY.

It is recognized as an established clinical fact that acute infectious disease occurring in an epileptic has a tendency to suppress the convulsive seizures, at least temporarily; though these may subsequently recur with their original or even increased frequency and severity. It has been thought that malarial infection especially exerted a favorable influence on epilepsy, but a series of fourteen observations made by De Montyel[1], in the course of eleven years, would seem to demonstrate the contrary. In five cases of mild epilepsy, with slight attacks at long intervals, and with little mental impairment, the symptoms were aggravated in the sequence of attacks of intermittent fever, which themselves yielded readily enough to quinin. In three cases in which there had been no convulsive seizures for a number of years, the attacks returned under the influence of malarial infection. In the remaining six epileptic attacks occurred for the first time while the patient was suffering from malarial fever. In one of these the attacks oc-

1 Revue de Médecine, Dec. 10, 1899, p. 921.

curred only in association with malarial infection, and in another they were worse under the same condition, although they occurred also independently. In a third, epilepsy developed during a second relapse of malarial fever, the attacks recurring and the patient remaining delirious after the malarial fever was cured. The patients in the remaining three were addicted to the use of alcohol, but this was considered merely a predisposing factor in one case, and the exciting factor in the other two, the malarial infection operating, however, as an aggravating influence. It should be added that all of the patients possessed a neuropathic predisposition.

MURDER AND SCIENCE.

A writer in the *Catholic World* for January, taking as his text a pamphlet already noticed in THE JOURNAL, makes a serious accusation against the medical profession. Under the caption "Murder in the Name of Science," he repeats the *suppressio veri* and *suggestio falsi* of the original with apparently no question as to its entire reliability. THE JOURNAL has already shown the malignant misrepresentation of the pamphlet in question, as regards the one instance where it could be sure of its identification of the article misquoted, and the refutation need not be repeated here. It showed how unscrupulous the author was in his perversion of facts, and what little reliance could be placed on the prejudiced statements of the humane association of antivivisectionists. It is unfortunate, however, that it has found a clerical believer to republish the libel in an influential denominational religious journal, and thus impose it still further on the credibility of the public. Physicians do not need to be told that reckless experiments on human subjects are universally condemned by the profession, and are only rarely ventured on by its less scrupulous members even in Europe. Here, however, we find the reverend gentleman repeating the calumny that it is practiced at wholesale there, and his readers will probably accept the statement implicitly. The two instances in this country referred to are the one already explained and another, hard to locate, as it represents the physicians of a hospital of one of our larger cities as inoculating twenty lepers with a still more loathsome and horrible disease. What hospital in a large city in this country could supply twenty lepers for such an experiment? As regards Dr. Berkley's experiments with thyroids, it is unfortunate that he made the slip of saying that death is invariably caused by even a moderate administration of an agent which, though not harmless, is yet not so actively toxic, and which has completely changed for the better the prognosis of one of the most repulsive forms of mental deficiency. That inaccuracy has been the text of these misrepresentations, and the case would probably never have been quoted without it. It should be said here, in justice to Father Searles, that he is evidently not an irrational antivivisectionist. His article is, on the other hand, rather a plea for the restriction of experiments to the lower animals; it is not the *corpora vili* he is concerned about, for he admits that they are ours "for legitimate use of this kind." His article gives no support for the antivivisectionists, but it is in every way reprehensible as taking up and repeating the slander sent out by them as a collateral aid in their attack on the medical profession. If he had only consulted his medical friends in whom he had confidence, assuming of course that he must have had such, or those whose character is such that neither he nor the general public can do otherwise than accept their testimony, he would have learned how unjustified and libelous is such an attack on an honorable profession.

CLUB PRACTICE—HOW SHALL WE MEET IT.

Our Canadian correspondent calls attention this week to the action of the Medical Society of Victoria in reference to lodge practice. It seems that the rapid increase of the various lodges and societies, whose main excuse for existence is supplying physicians and medicine to their members, has become so marked that some action is necessary to prevent the profession being made a mere tool of these societies. The action of the combined bodies brings matters to a focus, and the fight will probably be to the finish. It is certainly to be hoped so, at least. As if the free work now being done by the members of the medical profession in hospitals, clinics, dispensaries and among the deserving poor were not sufficient, these societies are demanding the right to treat physicians and their labor as commercial property to be used as a society may dictate, and pay what they see fit. This lodge business question is a growing one all over the country, and it is time that we recognize it as a question that will have to be met ere long. Whether they shall be compelled to submit to terms dictated by these combinations depends on physicians themselves. If they are contented to let matters take their course in this as they have done, they will soon find a serious problem on their hands. A transfer of the "Battle of the Clubs" to our shores, even over the border, is not a desirable consummation, but in some form or other we will probably see it come to pass. We have the advantage of the experience of our brethren in Great Britain and elsewhere, who have shown that where the medical profession shows a combined front to the evil it will win the fight. At present even we have a foretaste of what may come, not merely in the way of lodge practice and benefit societies, but also the attempted exploitation of our profession by speculative promoters and syndicates that attempt to control medical practice for their own ultimate profit. There have been notices of several proposed organizations that can hardly mean anything else than this. It is not to be admitted that this is going to be a normal phase of our social development, and as loyal to our professional brethren and to our own interests, we should each and every one of us do what we can to nip the evil in the bud. Mere individual action, however, will not be sufficient; what is needed is combined action and perfect organization in this as well as in other efforts. The question is already before us in its beginnings, and it is none too early to give the alarm.

OCCLUSION OF MESENTERIC VESSELS.

The difficulties in the way of an accurate diagnosis of intra-abdominal morbid conditions are often many, and sometimes insurmountable except through surgical intervention and ocular inspection, but an approximate degree of accuracy can often be reached from a careful consideration of all of the features present in the individual

case. Nausea, vomiting, and constipation, with a coated tongue, offensive breath and headache are common to many of these conditions, but it is rather their grouping and their association with other phenomena that can be considered to be at all distinctive. Pain is not always referred to its point of origin; fever will be present only when toxic substances are absorbed into the circulation; nausea, vomiting and constipation may be due to other causes than intestinal obstruction, and even this may be due to physiologic—pathologic—rather than mechanical causes; and tumidity may be either of gaseous or of solid origin. When these are elicited, the etiologic factors are of great significance for the diagnosis. A condition to which some attention has been called of late, and which, while not common, can scarcely be said to be rare, consists in occlusion of the mesenteric vessels—arteries or veins—by thrombosis or embolism. Such a condition may result from valvular disease of the heart, atheroma or inflammation of the vessels, arteriosclerosis, or adjacent inflammation. The symptoms consist principally in severe abdominal pain, vomiting, tympanites and signs of collapse. The bowels may be constipated, or there may be diarrhea with bloody stools. A tumor can sometimes be detected on palpation. Unless the effects of the vascular obstruction be speedily neutralized, ulceration or gangrene of the bowel will result. Death often occurs, although there is evidence that recovery may take place. The specimen from a case of hemorrhagic infarction of the small intestine with a fatal termination, was exhibited by Dr. Leon T. DeWald at a recent meeting of the New York Pathological Society. The patient was a drinking man, who presented symptoms of pulmonary emphysema and nephritis, and who complained of cramp-like pain in the epigastrium. Vomiting occurred frequently, the temperature rose to 103 F., and the pulse became small and wiry. After death the lungs were found congested, with a large hemorrhagic infarction at the base of the right. The heart was enlarged and dilated, and the aorta atheromatous and calcareous. The kidneys were enlarged and granular, and the right contained an infarct. The intestines were matted together by fibrinous adhesions, on separation of which a perforation was found in the ileum, about three feet above the ileocecal valve. The intestine for a distance of five inches on either side of the perforation was dark and gangrenous; the mucous membrane was softened; and the walls were dark and infiltrated with blood. The corresponding mesentery was in a similar condition and a thrombus was found in the supplying branch of the superior mesenteric artery.

INNOCUOUS INSOMNIA?

It is said that certain distinguished men of the past and of the present time have been able to do extraordinary amounts of work on a minimum of sleep, the time used for that function ranging from six to four hours, or even less, according to the reports. The statements are popularly accepted as facts without question, and are also repeated in medical works. A recently published text-book on nervous diseases says that some few adults are able to get along with four or five hours of sleep, though the majority require eight or ten. It is a matter of medical as well as popular belief that men like Edison, Napoleon and others can do more work and endure more fatigue than the great mass of men, with only a little more than half as much sleep as is generally supposed to be required. This is a physical anomaly. There is no machine that can be so made as to do a maximum of work on a minimum of repair or rest, the work done by a watch, for instance, which seems continuous, is very little, only equivalent to the force used in winding it. Just how special samples of the human machine contrive to thus reverse physical laws is a difficult question, and perhaps its simplest solution is to say they do not do it, at least for any long continued period of time. There are very few matters in regard to which there is likely to be more self-deception than that as to the amount of sleep. It is not at all uncommon to have persons say they have not slept at all, when in fact they have only had a few brief interruptions to their accustomed ration of slumber. It is perhaps possible that Edison may sleep only four hours—if he says so himself he probably believes it—but if so he is a very rare exception, and we seriously doubt whether he keeps it up over extended periods. That endurance of loss of sleep for a time is pathologically possible, any insane asylum can give evidence, but the victims either wear themselves out or make up the loss by prolonged periods of comparative stupor. In the normal condition it is, however, extremely doubtful whether any one can do good work, either mental or physical, for any length of time without more than four or five hours of sleep in the aggregate twenty-four hours. When the nervous centers are past their period of greatest activity, as in old age, there is an apparent lessening of the need of sleep, but even old men require at least six hours, and very rarely if ever do well on less. In active maturity seven and eight are none too much for the average man. The recently reported proposition of university students in some western institutions, to reduce themselves to a minimum of sleep, is one of the cranky notions of the day and likely to be disastrous if seriously attempted. A lively distrust of the reported stories of the innocuous insomnia of prominent persons, that appears to thus influence their immature intellect, would be a salutary thing to encourage.

PERNICIOUS MALARIAL FEVER.

While perhaps typhoid fever is the more prevalent above and malarial fever below Mason and Dixon's line, the fact should not be lost sight of that cases of each may occur under circumstances amid which they would be least expected. With the information to be gained from examination of the blood as to the presence of plasmodia on the one hand, and of agglutination and sedimentation on the other, in conjunction with other more or less distinctive symptoms, there should be little room for error in the diagnosis of these two diseases. While such error is the more likely to occur from failure in observation, it must in fairness be admitted that the diagnosis may in some cases remain in doubt from a concurrence of unusual circumstances. Of all men the physician must ever be prepared for the unexpected, and he should constantly fortify himself against surprise. A forcible illustration of the necessity for such safeguards is afforded by a fatal case of pernicious malarial

fever, reported by Dr. A. A. Smith at a recent meeting of the Practitioners' Society in New York City, and it would be only charitable to forgive a failure to recognize an isolated case of that disease. Neither is it common for malarial fever to prove fatal there. The case in question is therefore of more than ordinary interest. The patient was a man 44 years old, who had lived in Florida and South Carolina for a dozen years, and had been for three months in New York. He had had an attack of malarial fever about a year previously, for which he had evidently been treated inadequately, although improvement resulted. During five weeks there had been daily chills followed by high fever, thirst, drowsiness and headache. The latter became continuous, and there was much pain in the back and the large muscles of the body, especially the calves of the legs. Toward the close there was delirium, nausea, and vomiting. The bowels were constipated. Quinin was given hypodermically a short time before death, but was entirely without effect. Numerous plasmodia of varied kind were found in the blood. On post-mortem examination the spleen was enlarged and softened. The cerebral meninges were edematous and turbid, and in places hemorrhagic. The kidneys presented evidences of interstitial inflammation. It would seem that this case was perhaps one of chronic malaria that had become pernicious from want of proper treatment, and the failure in this direction is difficult to understand except on the basis of the patient's indifference to his condition. It is scarcely possible that the nature of the case should have escaped recognition.

Medical News.

THE TOPEKA (Kan.) Board of Health has authorized the establishment of a detention hospital for "Cuban chickenpox" patients.

THE SCHOONER *Vreeland*, on January 18, was ordered into quarantine at Old Point Comfort, Va., owing to the existence of smallpox on board.

DR. WILLIAM DAVIS, St. Paul, Minn., for many years associate editor of the *Northwestern Lancet*, has resigned. Dr. Howard Lankester will be his successor.

ACCORDING TO the *Gazette Méd.*, Paris is on the point of bestowing on a certain street the name of Eugene Bouchut, in honor of his invention of intubation of the larynx.

A NEW medical monthly—the *Providence* (R. I.) *Medical Journal*, which began publication this month—has been received. It is published by the Providence Medical Association.

THE MEDICAL faculty at Heidelberg now admits women students on the same footing as men, if provided with the diploma of a German "gymnasium" or high school course.

TRAVELERS in Mexico will be interested in the efforts of the editor of *Anales de Oftalmologie*, Dr. Troncoso, to compel the railroads to have the eyes of their employees tested. There is nothing of the kind in force now.

OWING TO the existence of the plague in Asia, etc., orders have been given by the U. S. Treasury Department that hereafter a clear bill of health will be demanded from all vessels clearing from such ports, under a penalty of $5000.

JUDGE ARNOLD, of the common pleas court of Philadelphia, has handed down a decision to the effect that artificial coloring of oleomargarin is unlawful. According to this decision it is unlawful to add any hue to the product other than that which it may possess in making.

THE CITY Board of Health, New Orleans, has mandamused the city council with a view to securing the means necessary for carrying on the work of the Board during the current year. The council budgeted the Board for $13,000 only, though an appropriation of $22,209 has been asked for.

PARIS HAS appropriated $1780 for the annual support of a laboratory for the study of favus and tinea. Dr. Sabouraud has been appointed superintendent, and the *Gazette Méd.* states that he has also been charged with the surveillance of all the schools of Paris in respect to favus, tinea and cutaneous diseases in general.

THE GRAND jury has returned indictments against "Divine Healer" Jones of South Omaha, Neb., and Mrs. P. B. Yates of Tabor, Iowa, on the charge of being criminally responsible for the death of the latter's daughter at Council Bluffs, January 5. (See THE JOURNAL, p. 117.) The jury decided that the daughter died from neglect, the mother having refused to procure medical assistance.

TWO YEARS ago, the *Association des Dames Francaises* founded a hospital near Paris, in which the members of the society serve in turn as nurses, in order to be prepared to assist the surgeons and medical men in case of war. They are now making great efforts to send to the hospital already dispatched to the assistance of the wounded Boers, a consignment of concentrated milk, green vegetables and coffee, and four hundred dollars' worth of inexpensive artificial limbs.

THE EIGHT medical journals of Havana are rejoicing at the appointment of General Wood to be governor-general of Cuba, as a compliment to the profession and a guarantee that great things will be accomplished. The *Archivos de la Policlinica* pays a glowing tribute to the "higienizacion" already accomplished by "la intervencion Americana," and the suppression of the scandalous prostitution in the street "forced on the people by the Spanish colonial government."

IT HAS been agreed by the House Committee on Inter-State and Foreign Commerce, in Congress, to report favorably on the bill (see THE JOURNAL, p. 182) authorizing the appointment of five scientists to make an examination of the river water, in different localities, used for potable purposes. The Delaware River water will be examined, and it was hoped that the Schuylkill would also be placed on this list, but as it does not flow through more than one state, it will not be examined by the commission.

A CHAIR of intertropical pathology has been created at Havana and Dr. Juan Guitéras appointed to it. He is at present studying in Europe. The *Archivos de la Policlinica* congratulates the Havana faculty on "this brilliant and exceptional acquisition," and expresses its exalted appreciation of "the patriotic act of the Doctor in leaving his position in Philadelphia—the chair of pathologic anatomy at the University of Pennsylvania—to return to Cuba for our welfare and to work for medical culture."

KOCH HAS made the Institute for Infectious Diseases at Berlin quite well-known. He is still in the Dutch

West Indies, and a number of other changes in the staff are announced. Brieger, in charge of the clinical department, has resigned to accept the new chair of general therapeutics at the University, and Pfeffer, chief of the laboratory, for the chair of hygiene at Königsberg. Marx has also left to assist Ehrlich in the Institute of Experimental Therapy at Frankfurt. Dönitsch and Frosch, who have returned from their official study of the plague in Portugal, are to take the places vacated by Brieger and Pfeiffer. The Institute has commenced ten-day courses on the plague in a laboratory outside the city, open to physicians, nurses and bacteriologists who agree to place themselves at the disposal of the Government in case of the outbreak of the plague. The courses are free to those occupying any official position. Other bacteriologists pay fifty marks.

STUDY OF TROPICAL DISEASES.—A board of medical officers to consist of Assistant-Surgeons William J. Calvert and R. P. Strong, U. S. A., and Acting Assistant-Surgeon Joseph J. Curry, has been appointed to meet at one of the general hospitals in or near Manila, P. I., for the purpose of studying tropical diseases as they occur in the Philippine Islands. The Board will receive its instructions from the Surgeon-General of the U. S. Army, and will be under the immediate direction of the chief surgeon, Department of the Pacific.

CONCERNING THE PLAGUE.—Five cases and four deaths were reported officially from Honolulu, January 16, and the same number of cases with no deaths were reported from Manila during the same period. The official reports convey the following information: Santos, Brazil, 38 cases and 13 deaths, October 15 to December 23; Hongkong, China, 42 cases and 42 deaths, November 5 to December 7. Three deaths were reported from Kobe, Japan, December 20, and one case was reported from Nagasaki, December 9. Twelve cases and 9 deaths were reported from Osaka and Hioga, December 2 to 23.

NEBRASKA'S MEDICAL STANDARD.—The four-year clause of the Nebraska medical law has been sustained by the district court in that state. An applicant who presented a three-year diploma was refused a certificate in October last, by the medical board. He appealed to the Board of Health, consisting of the governor, attorney-general and superintendent of public instruction, and it overruled the decision of the medical board and ordered that a certificate be issued. The Lincoln Medical College, a four years' graded school, applied for an injunction in the district court at Lincoln on the ground that the proposed action was a direct violation of the medical statute. On the showing made, the injunction against the board was made permanent, thus upholding the right of the legislature to fix the standard of medical education for the state.

SMALLPOX IN INDIANA.—Dr. A. W. Brayton, Indianapolis, has recently returned from a visit to Clay City, Ind., where he went to investigate one of the epidemics of mild smallpox that are being heard of here and there throughout the country. The whole town has been exposed, and as the younger generation had not been vaccinated, the disease spread freely. Had it been of the usual severe northern type the mortality would have been fearful. It is now in the country round about, and will probably be epidemic at least till spring. It has already extended to Terre Haute, Ind., where compulsory vaccination has been "hung up," so to speak, for two years, by the delay of the supreme court, and the town will doubtless suffer to some extent, if not extensively. The local medical men are, however, wide awake to the needs of the situation, and will keep the disease in check so far as it is in their power. Dr. Brayton is inclined to think the disease will creep still farther north, and may cover a large portion of Indiana and adjoining states. Chicago, he thinks, will escape, as it is the best-vaccinated city in the country, with the possible exception of New York City.

NEW YORK.

THE CENTRAL section of the Long Island College Hospital in Brooklyn is about to be replaced with a four-story fire-proof edifice, to cost $150,000.

A BILL has been introduced into the legislature, by Senator Ambler, providing for the appointment of a staff of consulting physicians for the hospitals for the insane.

READERS of THE JOURNAL will recall a recent attempt to poison a family at Armonk, Westchester County, by putting Paris green in the well. The owner of the well has finally succeeded, with the aid of a detective, in running down the culprit and lodging him in jail.

A SUPPOSED CHARITY.

Assemblyman Harburger has introduced a resolution into the legislature calling for a committee of five members, residing within Greater New York, to investigate the affairs of the Gerry Society, and report to the legislature before its adjournment. He also purposes to introduce a bill cutting off the annual appropriation by the city of $30,000, claiming that this sum has been appropriated hitherto on the assumption that the Society was a charitable one, but that, in view of the recent decision of the court of appeals, that it is not a charitable institution, but merely has police powers, it is no longer entitled to this aid.

MONTEFIORE HOME FOR CHRONIC INVALIDS.

This home is located in a high and salubrious region of Westchester County, within forty miles of New York City, and is especially designed for patients with pulmonary tuberculosis. During the last year a laboratory was established for microscopic and bacteriologic work. Of the 67 inmates treated, 63 were consumptives, classified as follows: percipient cases, 26; advanced, 28; far advanced, 10. Of these 39 were discharged during the year, their condition being as follows: apparently cured, 14; improved, 18; unimproved, 6; died, 1. Of 38 inmates, 28 gained in weight, 4 lost, and 6 remained stationary. The highest gain was 26 pounds, the average gain 11, and the average loss 4¼ pounds. Of the 38, 1 was able to work regularly on the farm and in the garden, 16 were able to work at intervals, and 13 did not do any work. The property embraces 136 acres, and a fine new sanitarium, the cost of which is estimated at $200,000, is now in course of construction.

STATE HOSPITAL FOR CONSUMPTIVES.

A bill has been introduced in the legislature providing for the establishment of a state hospital for consumptives. It appropriates $200,000 and authorizes the Governor to appoint, with the consent of the Senate, a board of nine trustees; at least two of whom shall be physicians. The trustees will receive no compensation, but are to be allowed $600 each for traveling and incidental expenses. The board is required to report annually to the legislature as well as to the State Board of Charities, and the latter is to determine the amount of the appropriation required each year. The trustees are empowered to appoint the superintendent, who must be a properly qualified physician, not one of the trustees. All medical assistants and examining physicians are to be appointed by the trustees on the nomination of the superintendent; thus the latter is authorized to appoint all necessary employees, and fix their compensation. While pay patients will be received, preference must always be given to the indigent. All persons desiring free treatment must apply to the authorities having charge of the relief of the poor in the district in which they reside, who shall thereupon request the nearest examining physician to make an examination of the patient; and no person shall be admitted without the certificate of one of the examining physicians to the effect that the applicant is suffer-

ing from incipient pulmonary tuberculosis. Provision is also made for the free transportation of such applicants to the hospital, which it is proposed to have located in the Adirondack region.

New York City.

THE ANNUAL dinner of the New York Society of Alumni of the University of Pennsylvania was held at the Waldorf-Astoria Hotel on January 20.

IMMIGRANTS landed at the port of New York last year numbered 303,762. The total deportations of criminal insane, and otherwise undesirable immigrants, during the year, were 3535, a larger number than in any single year since 1893.

THERE IS in Gouverneur Hospital a poor woman, the mother of three children, who has just given birth to triplets. Two of the babies were boys, and one a girl, and their combined weight was ten pounds and six ounces. The mother and babies are doing well.

A PROFESSIONAL pin swallower, made uncomfortable and dyspeptic by his occupation, recently appealed to the surgeons at St. John's Hospital, Brooklyn, and the following indigestible articles were removed: 3 watch-chains, 2 nickel and 1 brass; 2 latch keys; 6 hairpins, 128 ordinary pins, 10 two and one-half-inch nails, and a ring with a stone in it.

NEW YORK POST-GRADUATE HOSPITAL.

The fifteenth annual report of the directors of the New York Post-Graduate Hospital shows that during the last year 2668 patients were treated in the wards, of whom 1354 were discharged as cured and 320 died. In the report the urgent need of the hospital for an ambulance service is dwelt on. The generosity of one of the ladies interested in the institution has provided sufficient amount for the purchase of one.

POISONING FROM COPPER URNS.

One day last week 180 of the employees of Bellevue Hospital became very ill, apparently from something eaten at the noonday meal. Inspection showed the eatables to be fresh and wholesome, and it is inferred that the poisoning arose from a neglect to properly clean out the large metallic coffee urns. All those taken sick recovered in a short time, with the exception of one man, whose life for a time seemed in danger.

DEATH CERTIFICATES.

The Society of Medical Jurisprudence having appointed a committee on apparent death, its chairman, Dr. H. J. Garrigues, has sent a communication to the Board of Health urging a radical change in the present method of certifying to deaths. It is an open secret that many physicians are in the habit of signing death certificates on the statements of relatives, friends or others, without having personally inspected the body, although possibly twenty-four hours or more have elapsed since their last professional visit. The communication was listened to with interest and it was afterward asserted that it was quite probable that this agitation of the subject would lead to an amendment of the Santiary Code in this particular. It was suggested by the committee that the chief signs of death should be enumerated on the blank certificate, and that the physician be required to indicate, by writing "Yes" or "No," the presence or absence of each of these signs. It was argued that it would not be enough to require the physician to state that he had personally inspected the body, for, such an inspection might be perfunctory. It was also suggested that an ordinance be passed making it illegal to expose a body to cold, or to use embalming fluids thereon or therein until death had been properly certified to by a legally qualified physician who had been in attendance on the deceased.

PENNSYLVANIA.

THE GOVERNOR has appointed the following as members of the Board of Medical Examiners: Henry Beates, Philadelphia; Hiram S. McConnell, New Brighton; and R. W. Ramsay, Chambersburg.

A CHILD of 14 years, of Reading, about four months ago was bitten by a water spaniel. The wound was cauterized, and as the animal showed no signs of being rabid nothing was thought of the matter until the second week in January, when alarming symptoms of hydrophobia developed and the girl died January 17.

ON JANUARY 17, Dr. J. H. Oyler, acting state veterinarian, was sent to Berrysburg, near Harrisburg, to examine a herd of cattle supposed to be suffering with tuberculosis. Six animals were found diseased and ordered killed. In another herd of 21 cattle examined, four were ordered killed.

Philadelphia.

AT THE annual meeting of the Alumni Association of the Medico-Chirurgical College, January 13, the following officers were elected: president, Morton P. Dickeson; secretary, S. C. Burns; treasurer, E. S. Gans.

AT THE Philadelphia Hospital, last year, the money taken from the pockets of supposed charity patients amounted to $733.74, and for the past eight years it was $3852.88. The inmate of this hospital who recently fell heir to $50,000 will be made to pay the city $300.

DURING the past week the University of Pennsylvania sent three representatives to attend the New England alumni banquet and reunion in Boston; they were Professors Simon Flexner, Hampton L. Carson and William R. Newbold.

PROF. WILLIAM OSLER of the Johns Hopkins University, addressed the students of the medical department of the University of Pennsylvania on the evening of January 18, on "John Locke As a Physician and Philosopher." After the address a reception was tendered Professor Osler at the University Club, by members of the William Pepper Medical Society.

DR. EDWARD MUSSEY HARTWELL, Boston, has given a series of lectures during the past week to students of the Philadelphia Normal School, on "Physical Culture" and Hygiene." Dr. Hartwell has made a special study of physical training in the schools of Germany and Sweden. At present he is at the head of the Boston Municipal Statistical Bureau.

ANOTHER thief has been victimizing physicians in this city during the past week. His special plan of deceiving was to call hurriedly at some physician's office and tell the people who met him at the door that the doctor sent him for his instruments, etc. for an emergency case. The man then pawns or sells them.

THERE will be no executive clemency shown the two men who, as previously noted in these columns, were recently convicted and sentenced to the penitentiary for violation of the oleomargarin laws and afterward endeavored to secure pardons from the president.

MORTALITY STATISTICS.

The number of deaths during the past week was 525, an increase of 21 over that of the previous week and a decrease of 61 over the corresponding week of last year. The principal causes were: apoplexy, 12; nephritis, 33; cancer, 16; tuberculosis, 56; diabetes, 1; heart disease, 47; hernia, 3; influenza, 4; pneumonia, 86; peritonitis, 4; appendicitis, 1; septicemia, 1; suicide, 3.

HOSPITAL FOR CONTAGIOUS DISEASES.

A meeting of the incorporators of the proposed pay hospital for contagious diseases was held during the past week. The following officers were elected: president, Hon. William N. Ashman; vice-president, Edwin G. Hamersly; recording secretary, Clara T. Dereum; corresponding secretary, Edwin Rosenthal; treasurer, J. Madison Taylor. Application was made to the court to change the name from the Health Protective Hospital to the "Pay Hospital for Contagious Diseases."

JEFFERSON ALUMNI.

The fourteenth annual meeting of the Alumni Association of Jefferson Medical College was held January 20. Dr. A. H. Hulshizer, of the State Board of Medical Examiners, presided. Dr. George M. Gould delivered the principal address, entitled "The Story of an Unknown Hero's Life." The following officers were elected for the ensuing year: president J. K. Weaver, Norristown; first vice-president, G. B. Dunmire; second vice-president, J. Van Buskirk; third vice-president, W. S. Stewart; fourth vice-president, T. E. Conrad; corresponding secretary, Thomas G. Ashton; recording secretary, Wilmer Kruzen; treasurer, W. M. Sweet.

MARYLAND.

SECOND MARYLAND HOSPITAL FOR THE INSANE.

The fourth annual report of this hospital (Springfield) has been published. The admissions were 27, total patients 206. Of these 5 were discharged as recovered, 1 on parole and 8 died. The death-rate, 3.88 per cent., is remarkably low, as many of the patients came from the city's poor-house, and were

broken-down alcoholics and syphilitics. It is attributed to the excellent hygienic arrangements and location as well as the dietary and treatment. Tuberculosis seems likely to be eliminated from the death-roll. The open-door treatment and employment of patients has been literally carried out, and no patient has had a key turned on him. Occupation, with the largest liberty compatible with the safety of the patient and other patients, is the rule. It is surprising, remarks Superintendent Joseph Clement Clarke, what good effects a few hours' work on the farm or the garden has on restless patients. The farm and garden patients take as much interest in the growing crops as employees. In addition to working daily in the garden, farm, ward, kitchen, laundry, dining-room, and tailor-shop, the patients have dug a ditch 8100 feet long, 2 feet wide and 3 feet deep for a water main, and have cut and husked 75 acres of corn, cleaned out the reservoir, and graded and made the roads and walks around the hospital. A new group of buildings on the block plan, for females, is now in course of construction and rapidly nearing completion. The demand on the state, however, is for a separate hospital for the colored insane, and Dr. Clarke points out the advantages offered for this at Springfield, with its abundant water-supply, natural drainage, the land being owned by the state, the water system being established and the electric plant already in operation.

Baltimore.

A BENEFIT for the Maryland General Hospital was given at the Zoo on the 17th, to raise funds to furnish supplies, etc., for the free wards.

TO THE Frick department of the Medical and Chirurgical Faculty's Library, 326 new books were added in 1899, making 1357 volumes in that collection. The number of readers was 4031.

SCHOOL INSPECTION.

Health Commissioner Charles H. Jones is inspecting the public schools. Inadequate air space is the most glaring defect so far found. In many buildings there is less than 70 cubic feet of air per pupil. In nearly all, except those recently constructed, there is also defective ventilation. Cloak-rooms are almost invariably absent. One school is said to be almost directly over a sewer, and when the windows are opened the sewer gas is noticeably present. Offensive odors are also noticed from wraps hanging on the walls of the class-rooms. Some of the schools are overcrowded while others have vacant rooms.

SANITARY PROPOSALS.

Health Commissioner Jones has proposed a change in death certificates so as to require a statement that the physician signing it has viewed the body. He does not consider it necessary that the physician shall indicate the presence or absence of certain signs of death, as has been proposed in New York City, and noted in another column. He proposes that the certificate shall be signed before anything is done which would cause pain or injury to a live body, as embalming, putting on ice, etc. So far as danger of burial before death is concerned, Dr. Jones has never known a case of the sort.

EYE, EAR, NOSE AND THROAT HOSPITAL.

The eighteenth annual report of the Baltimore Eye, Ear, Nose and Throat Charity Hospital shows increases in every department. During the last year, 4029 patients were treated and 13,280 visits made to the dispensary. Of the patients, 2321 were white, 1708 colored; 2599 had eye diseases, 808 throat and 622 ear diseases; 475 surgical operations were performed, 343 on the eye, 81 on the ear, and 51 on the throat and nose. In the eighteen years, 44,021 patients have been treated, 4958 surgical operations performed and 147,250 visits made to the dispensary. The hospital is chiefly dependent on voluntary contributions, and the rapid growth of its work since the new building was erected in 1898 leads to an appeal to the public for assistance.

MORTALITY STATISTICS.

The death-rate of this city, according to the annual report of the health commissioner for 1899, was 18.76 per 1000, against 19.19 in 1898. There were 153 deaths from typhoid fever. A hard fight was maintained against diphtheria, and the average cases per month were less than in 1898. One of the great nuisances to health is the milk from city stables. There are 450 of these. By a number of prosecutions 45 have been closed and the rest kept in fair condition. Imperfect surface drainage in the newly-acquired annex, two miles north and west of the old city limits, creates many nuisances.

MILK CONDITIONS.

Less milk is condemned by the inspectors than formerly. City Chemist Lehmann says the milk standard—12 per cent. of solids and 3 per cent. of fat—is too low, and a better one would be 14 and 4. An ordinary cow, well fed, will produce the ratio of 15 to 4½. Hence producers have a wide margin for dilution, five gallons of milk being made from four by dishonest dealers, it still passing the test. It does not follow, however, that milk not coming to the test has been adulterated; it may arise from poor feeding, as in slop-fed city cows. Dirt and filth in milk does not necessarily mean danger to health, in the absence of disease in the cow and disease or pus germs in her milk. In ideal dairies everything coming in contact with cows during milking is sterilized; the clothes of milkers are passed through a steam chest and all utensils sterilized, even the cow's udders.

ILLINOIS.

Chicago.

THE INITIAL number of the *Doctor's Magazine*, edited and published by Dr. George F. Butler, will appear February 1.

THE PUBLIC school inspectors examined 4537 pupils during the week, of whom 364 were excluded from school to prevent infection of other pupils.

AT A recent meeting of the city council, an ordinance was introduced providing for a commission to make arrangements with a number of existing hospitals for the care of emergency cases.

DR. J. G. HUIZINGA has resigned the professorship of ophthalmology at the Chicago Eye, Ear, Nose and Throat College, to accept a similar position at the Post-Graduate Medical School.

A SURGICAL SOCIETY has just been organized with the following charter members: Drs. Owen, Murphy, Bevan, Van Hook, Harris, Ferguson, McArthur, Steele, Allport, E. W. Andrews, Beck, Plummer, Frank, and Eisendrath.

THE TRUSTEES of the Wesley Hospital will place that institution under the control of the Deaconess' Society of the Methodist Episcopal Church, June 1. The Northwestern University Medical School will provide the hospital staff.

COOK COUNTY HOSPITAL STAFF.

At the annual meeting of the staff of Cook County Hospital, Dr. Denslow Lewis was elected president, and Dr. L. Blake Baldwin was elected secretary. The Executive Committee consists of Drs. Weller Van Hook, George F. Butler, A. I. Bouffleur, and the president and secretary, ex-officio.

MORTALITY STATISTICS.

The total mortality of the past week was 511, an excess of 30 over the preceding week, the increase being caused by deaths from bronchitis, pneumonia and diphtheria. There was but 1 death from influenza during the week, 39 less than the mortality of the corresponding period of last year. In the weekly bulletin, the health commissioner calls attention to the fact that the opening of the sanitary drainage canal will not materially affect the water-supply, as many sewers will continue to empty into the lake until the work of constructing the intercepting sewers is completed.

WISCONSIN.

A MEETING of the State Board of Medical Examiners will be held in February, in LaCrosse, for the convenience of physicians in the southwestern part of the state to register and obtain licenses.

Milwaukee.

SIGHT AND HEARING OF CHILDREN.

An examination into the condition of the sight and hearing of the children in the Milwaukee public schools has been instituted by Dr. H. V. Würdemann, by request of the Milwaukee School Board, under the direction and authority of the Board of Health. He has associated with him in this work Drs. Nelson M. Black, John S. Barnes and Charles Zimmermann. The general plan of the investigation consists in instructing the teachers by a series of addresses on the anatomy and physiology of the eye and ear necessary for such an investigation; the seating and lighting of school-rooms; the most common

defects and diseases of the eye, ear and nose, which are productive of poor sight and hearing, and instructions for examination of the eyes and ears. The statistical data for the investigation are obtained by a series of ten simple questions: 1. Does the pupil habitually suffer from inflamed lids and eyes? 3. Do the eyes and head habitually grow weary and painful after study? 4. Is the pupil probably "cross-eyed?" 5. Does the pupil complain of earache in either ear? 6. Does matter (pus) or a foul odor proceed from either ear? 7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room? 8. Does the pupil fail to hear the tick of a good-sized watch at three feet with either ear in a quiet room? 9. Does the pupil fail to breathe properly through either nostril? 10. Is the pupil a habitual "mouth breather?" If an affirmative answer is found to any of these propositions, the pupil is given a card of warning of non-obligatory nature, advising that the child be taken to a reputable physician, and stating that pupils with eye or ear disease can not attain best results in school.

OHIO.

Cincinnati.

TRAINING SCHOOL FOR NURSES.

Considerable surprise is manifest over the statement that this school has been conducted by the trustees of the city hospital without warrant of law. Although the records have been searched by the trustees no authority has yet materialized. The annual cost of maintaining this branch of the hospital has been in the neighborhood of $25,000. The committee of trustees to which the question of legality was referred is of the opinion that the training school should be continued on a less expensive scale. Sixty nurses are employed at $25 a month, and it is stated that a reduction in the corps will be recommended at the next meeting of the board. The committee will also recommend that local applicants be given preference as those from other cities remain long enough to receive an education at the expense of the taxpayers, and leave the hospital when their services might be of value to the community.

INDIANA.

IT IS reported that two deaths from hydrophobia have occurred at Richmond.

MEDICAL COLLEGE AFFAIRS.

The State Board of Medical Registration and Examination held a semi-annual meeting January 15, at Indianapolis, and reelected the following officers: president, J. C. Webster, Lafayette; vice-president, W. T. Gott, Crawfordsville; secretary, W. F. Curryer, Indianapolis; treasurer, James M. Dinnen, Fort Wayne, and W. A. Spurgeon, Muncie. A resolution was adopted by the Board requesting each medical college in the state to furnish, annually, the following information: The number of students in attendance during the college year; the per cent. of attendance at the lectures by each student; the number of lectures delivered by each teacher; the per cent. of attendance of each student at such lectures, and the number of students failing to pass the entrance examinations, with their addresses. The Board also concluded to hereafter pay an annual visit to every medical college in the state, for the purpose of ascertaining whether they are keeping up to the required standards.

MICHIGAN.

THE ANNUAL report of the St. Mary's Hospital, Saginaw, shows that 450 patients were treated in the institution during the past year. The total receipts were $11,065, and the expenditures $12,010, leaving a deficit of $945.

RESOLUTIONS ON ANTIVIVISECTION BILL.

At the meeting of the Wayne County Medical Society, January 4, in Detroit, Dr. H. O. Walker presented the following preambles and resolutions, which were adopted:

WHEREAS, It has come to the knowledge of this Society that a bill has again been introduced into Congress for the purpose of the prevention of cruelty to animals in the District of Columbia, and

WHEREAS, The real object of the bill is to prevent vivisection and aid in the passage of like bills in the several states. It is

Resolved, That every member of this Society sign an appeal against the passage of this bill, to be presented to Senator James McMillan, chairman of the Committee on the District of Columbia; and, further, it is

Resolved, That every member of this Society be requested to write a personal letter to each of the senators of this state and the representative of this district asking them not to vote for the passage of said bill.

MINNESOTA.

DR. J. H. DUNN, of Minneapolis, will go South to regain his health.

THE FIRST wing of the new City Hospital, Minneapolis, is being rapidly completed and will be ready for occupancy in the early spring.

DR. CHARLES MAYO, Rochester, has been appointed by the governor to succeed Dr. Wesbrook on the State Board of Health. Dr. Wesbrook will continue to do the laboratory work for the Board, at the University laboratory in Minneapolis.

THE NORTHWESTERN Hospital of Minneapolis, which has always had a visiting staff composed of women physicians, has changed its plan and appointed the following staff: surgeon, James E. Moore; physicians, H. H. Kimball, J. W. Bell, E. S. Stout and C. Nootnagel; assistant surgeons, Rollin E. Cutts and Cora V. Roberts; consulting surgeon, J. Clark Stewart; consulting gynecologist, Amos W. Abbott.

PACIFIC COAST.

SEVERAL mild cases of smallpox developed in Spokane, Wash., recently.

DR. S. B. LIMERICK has been appointed to the Seattle (Wash.) Board of Health, vice Dr. George Newlands.

DR. JOHN W. WAUGHOP, for many years superintendent of the Western Washington Hospital for the Insane, is now residing at Koloa on the Island of Kauai, H. I.

THIRTY-ONE applicants for license to practice in Washington were examined by the State Medical Examining Board at Tacoma, January 2.

DR. JOHN F. CALBREATH, of McMinnville, has been appointed superintendent of the Oregon Hospital for the Insane. Dr. D. A. Paine, the former superintendent, has resigned and will make a trip to Europe next year.

ASSISTANT ATTORNEY-GENERAL VANCE, of Washington, has rendered an opinion to the effect that any person can practice osteopathy in the state without holding a medical certificate, provided such practitioner does not affix "M.D." or "M.B." to his name, and does not prescribe drugs or medicines. He holds that osteopathy is nothing but a sort of massage treatment.

CANADA.

(From Our Regular Correspondent.)

TORONTO, Jan. 20, 1900.

A CASE of smallpox is reported from Montreal. It is thought the disease has been introduced from New Brunswick, where several cases exist.

DR. E. H. STAFFORD, first assistant physician, asylum for the insane, Toronto, has resigned his position and will recuperate his health in Bermuda.

REGARDING the smallpox outbreak in Essex County, Ontario, Dr. Bryce reports that four new families have been infected since December 23. All the old cases are convalescing rapidly, and so far no deaths are reported.

IN THE smallpox epidemic in Quebec, which started three months ago, 352 persons have recovered from the disease, 13 are still sick and 8 houses are now infected. No deaths have occurred.

DETECTIVE ROSE, for the Ontario Medical Council, had several citizens of Toronto arraigned in the public court last week charged with practicing medicine without the necessary qualifications. Most of them were "Christian Scientists."

THE ANNUAL concert of the Ontario Medical College for Women was held the 18th inst. Since the inception of this institution in 1883, 150 students have been trained and there are at present 30 in attendance.

THE MILITIA department has purchased 1500 emergency bandages for the wounded, one of which will be carried by each man of the second contingent, the other being kept at the base.

THE MEDICAL board appointed by the Dominion Government to inspect the transport steamer *Montezuma*, as announced in

THE JOURNAL last week, has advised the rejection of the vessel owing to the cases of typhoid occurring among its crew.

THE MONTREAL Maternity Hospital has just been given $15,000, Sir William Macdonald and Messrs. Ross and Angus contributing $5000 equally. Lord Strathcona, who has already given $10,000, promises another $1,000 if nine others will donate a similar amount.

IN CONNECTION with the outbreak of typhoid fever in Westmount, a suburb of Montreal, it is stated that a milk-dealer is confined in the Western Hospital there with the disease, contracted from the milk which he himself had supplied.

THE FOLLY of treating their own children by parents was aptly illustrated in Hamilton this week. A child 4 years old was attacked with convulsions, and the mother, who was lying ill in bed, instructed her husband to place it in a hot bath. The result was that it was so severely scalded that it died two or three hours later.

OF THE $30,000 indebtedness of the Victoria Hospital for Sick Children, Toronto, $25,000 has already been subscribed, largely through the generosity of the fraternal organizations throughout Ontario. It is expected that the balance will be made up by the end of February.

FOR INTIMIDATING the medical health officer of Toronto in connection with that officer's examination of the city's firemen, recently, a citizen was convicted in the assize court, but allowed to go on suspended sentence after his attorney had made a public apology to the health officer.

NURSING-AT-HOME MISSION.

The twelfth annual report of the Toronto Nursing-at-Home Mission shows that during the past year 374 women, 26 girls, 26 infants, 24 boys and 14 men were treated. Out of this number 38 were sent to the various hospitals, 30 deaths took place, and 7157 visits were made. All told, 2858 patients were treated and 3027 prescriptions issued. The work is carried on among all classes and conditions of people, regardless of race or creed.

A CANADIAN HOSPITAL SHIP, THE "MAPLE LEAF."

Major Napier Keefer, Toronto, of the Bengal Army, retired, has come forward with a project and the offer of $1000 toward the equipment and maintenance of a hospital ship for the Canadians now at and on their way to South Africa. He is of the opinion that if Canada could fit out and equip such a vessel, the gift to the Imperial authorities would be greatly appreciated. Canada will very soon have upward of 3000 men in the field, when the Strathcona Horse, which the Canadian High Commissioner, Lord Strathcona, has so patriotically offered to the Home Government at his own expense, shall have been enrolled and dispatched; and the sick and wounded from this force might be given a prior claim for admission in this hospital ship.

LODGE PRACTICE IN VICTORIA, B. C.

As announced in last week's JOURNAL, the physicians of Victoria have set their faces hard against lodge contract practice, but they still have the lodges to reckon with, and it will be interesting to follow the actions of the interested parties as to the outcome of the struggle. Following fast on the declaration of professional independence by our confrères in the West, comes the news that the representatives of some seventeen fraternal organizations in that city have held a mass meeting at which the doctors came in for much abuse, not unmixed with threats of what the lodges would do if the physicians did not come to time and mend the error of their ways. It was decided that an advertisement should be inserted in the provincial papers for two or more qualified physicians. The idea of the fraternal societies is to form cottage hospitals throughout the city and have their own special physicians paid by salary, whose further duty it shall be to attend only to the families of fraternals. (See also p. 242.)

SMALLPOX IN NEW BRUNSWICK.

The dread disease has made its appearance in and around Campbellton and Moncton, and there are now three provinces in Canada having centers for the spread of infection. The local Board of Health is arranging for a general vaccination, and as the sections in Quebec and New Brunswick infected are contiguous, and traversed by the Intercolonial Railway, every precaution will be taken to prevent the spread of the disease along the railway line. All employees on trains and at stations, whose duties bring them into relation with the traveling public, have been ordered to be vaccinated, and arrangements have been made for the disinfection of all passenger cars. It is thought that it would be a wise precaution to vaccinate all the members of the Second Canadian Contingent, as they will be passing through the infected districts on their journey to Halifax, whence they embark for Cape Town.

ONTARIO STATISTICS.

The death-rate for this province last year was a trifle over that for 1898. In 1899 there were 23,426 deaths reported to the Provincial Board of Health, making a percentage of 10.5, against 11 per 1000 for 1898. Consumption caused the death of more persons than all other contagious diseases put together, 2315 dying from tuberculosis alone. Deaths from the other contagious diseases were: scarlet fever, 214; diphtheria, 363; measles, 43; whooping-cough, 90; typhoid fever, 381. During December alone 99.75 per cent. of the population reported—the largest on record. This represented 746 municipalities, the total deaths for the month being 1843. Of these consumption was responsible for 157. Marriages appear to be on the increase in the province. During 1898 the total number was 15,293, an increase of 381 over the previous year. In Toronto alone there were 1696 marriages in 1898, or an increase of 195 over the previous year.

ROYAL VICTORIA HOSPITAL, MONTREAL.

The annual meeting of the governing board of this institution took place last week, the election of officers for the ensuing year resulting in the selection of the Hon. R. B. Angus as president. The report of the superintendent showed that during the past year 2537 patients have been admitted to the hospital. Of these 1545 were free patients, 656 public ward patients paid at the rate of 50 cents per day, and 336 private. The increase over the previous year has been 256. On Jan. 1, 1899, there were 133 patients remaining from 1898, and during the year 2543 have been discharged, of whom 1530 were well. 613 improved, 119 unimproved, 140 not treated, 111 died, and 157 remained on Dec. 31, 1899. Of the 111 deaths, 31 took place within forty-eight hours of admission, the death-rate for the year being 4.41 per cent. The highest number of patients in the hospital on any one day was 200 and the lowest 134. In the out-patient department there were 16,721 consultations, as against 14,681 for the previous year, the increase being attributed to the opening of the new laryngologic department. The medical consultations were 6228; surgical, 5218; eye and ear, 2685; nose and throat, 1527; and diseases of women, 1963. The ordinary income for the year was $113,892.71, the expenditure amounting to $94,851.64, the balance being applied toward the new out-patient department.

Correspondence.

Medical Practice in the Philippines.

MANILA, P. I., Dec. 12, 1899.

To the Editor:—This is a difficult place in which to put anything into literary form, one being in a sweat-bath most of the time, and having to stop every few minutes to wipe one's hands and face.

PRACTICE IN MANILA.

The old Spanish law, under which we are administering the civil government here, required the passing of an examination for dentists and veterinarians, but none for physicians, who were only required to have a diploma, to register and pay an annual tax of $50 to $150, according to supposed income, by which they were classified. There is no field here for American physicians, for several reasons. In the first place the fees are too small. I was called once to an American house where I had been attending the family, and found a native physician there, sent for in emergency by the servants. He withdrew as soon as I arrived, but I asked him what fee he expected. His reply was that the usual honorarium was *dos pesos*, equal to $1 in our money. He is a *mestizo* of good professional standing and education, a graduate of the University of Barcelona, Spain, in medicine, and yet he only expected $1, gold, for an emergency call to an American family. Among his own people

he would probably expect an average of 50 cents, Mexican, equal to 25 cents in gold, for each visit. In the next place, the people who pay for their medical service are well-to-do *mestizos*, and they prefer their own race, who speak both Spanish and Tagalog, and use remedies with which the people are familiar. There are plenty of such men here, who have been educated first at the local medical college, which is connected with the University of Manila, and have taken a supplementary degree in Spain. There are also several first-class English physicians here, who attend their own nationality as well as other foreigners, and have a considerable clientele among the wealthy natives. Several American physicians have tried to settle here during the last year; some after leaving the Army or Red Cross organization, others having come out specially for that purpose. With one or two exceptions they have failed to establish a practice and have gone home. Several of them told me that they could not do anything except to "fake it" among our soldiers, on venereal disease, and preferred to quit rather than do so.

A MEDICAL GATHERING.

As to what the medical men are doing here clinically, there is not much to say. There is no opportunity for meeting one another regularly, and we of the army are worked so continuously that we have no time in which to look each other up. We had a pleasant meeting on the hospital ship *Relief*, a short time ago, at the invitation of Major Perley, the surgeon in charge. A paper was read and discussed to some extent. This is the only occasion on which we have met for such purposes since the occupation.

HEALTH OF THE PHILIPPINES.

Manila is not an unhealthy city. It has a most excellent water-supply, the gift of one of the former Spanish Governors-General, who left a large private fortune for this purpose, requiring that the water should be free to all citizens. There are public hydrants in every street, even far out in the suburbs, and no one pays a cent for water obtained therefrom. The only water-rates are paid for service inside houses, and those who don't wish to have the service laid can employ Chinese water-carriers to fill their water-jars daily, carrying the water from the public hydrants. When this water is boiled and filtered, as is commonly done by Americans, it leaves nothing to be desired in this respect. Out on the lines, where the men have to drink what water they can get, there is much malarial and other water-borne affections; but in the city it is nearly always one's own fault if sickness comes, speaking generally. If the cases of wounds and injuries, venereal affections, and bowel troubles due to excess or carelessness in eating and drinking, were eliminated from the sick reports of the army, during the time when it lay here in Manila, there would have been but little left of the sick-lists. But we have had two armies of unseasoned recruits to deal with, and just as soon as the first army began to know what should be avoided to keep in good health, it had to go home to be mustered out, and the second one of recruits came to go through the same experience. On the lines the case is different, of course. Rough food, roughly prepared, poor water, and heat, prostrate many. Convalescence from any disease is very slow in this climate; and the shortest fever leaves the patient very weak for a long time.

NATURE OF THE FEVERS.

The fevers are not malarial in most cases, as quinin does not control them; but they usually correspond to the forms of continued fever which Manson treats in his "Tropical Diseases," under the title of "Unclassed Fevers of the Tropics." We have had a good deal of typhoid, and it has been of a severe type, and very fatal. One case now going on under my care in a woman, began four weeks ago with a temperature of 105.5 F. For three days I used quinin sulphate, bisulphate, and hydrochlorate in daily doses of 30 grains, given between 6 a.m. and 12 m., and found the temperature at 105.5 every evening. Then I dropped quinin and had a blood-test made, which showed a well-marked Widal reaction. Soon abdominal symptoms developed and the case settled down into regular typhoid, but today the fever remains at 100 minimum and 102 maximum, after more than four weeks of continued fever. There are good points about the case, however, which give me great faith in the ultimate recovery. There have been no mental symptoms, the tongue is always moist and clean, and the strength is well sustained on two quarts of milk a day. Whenever I check the number of stools by an opiate, the temperature immediately rises and goes to 104 F.

DHOBIE ITCH.

One form of skin disease has given us much trouble, the so-called "Dhobie Itch;" a ring-worm affection which prefers the crotch and the axillæ in most cases, and is very obstinate in the field. Patients in the city soon get rid of it by the help of local germicides, especially chrysarobin ointment, but when it is neglected, as must of necessity occur in the field, it often affects the cellular tissue below the skin and causes a severe cellulitis.

SYPHILIS NOT PREVALENT.

Syphilis, contrary to our expectations, is very seldom seen, but chancroids and chancroidal buboes are very common, and seem to be the prevailing form of venereal infection.

MORTALITY AMONG NATIVES.

Among the natives, the death-lists, which are published daily, show that most of the mortality occurs from convulsions—probably infantile—and beri-beri. There are sometimes 14 or 15 deaths daily from each of these, to 1 or 2 or 3 from any other cause. The natives suffer from *calentura*, which means any kind of fever, whenever a cool wind prevails, and they say themselves that when the north winds blow there is *mucho infirmidad*—much sickness.

In the army there have been three deaths which have been suspected to have been due to beri-beri; but this is doubtful, the disease being practically unknown here among Europeans or other white races. Multiple neuritis has been seen quite often among our men, but the particular form of neuritis named beri-beri is confined to the native population. In view of the outbreak a few years ago, in an insane asylum in Dublin, Ireland, we may expect to have it among our white prisoners in the local penitentiary, but it has not yet been seen there, which fact speaks well for the sanitary condition of the place.

Women and children do very well out here, in fact they have had less sickness proportionately, than any other class of our American population. This is partly explainable by the greater care taken by them as regards food, drink and exposure to the sun in the middle hours of the day.

This army has been magnificently and munificiently supplied with everything. There has been no breakdown in any department, and no want of anything essential to the care of the men, sick or well. The medical department has been highly praised by foreign officers visiting our hospitals. Captain S. S. Long, deputy assistant adjutant-general of the British Army, came here from Hongkong during the early operations, before the fall of Manila, and looked into every department of our service. On his return he published an article in the *Journal of the United Service Institution in India*, in which he said: "If the spirit of the troops was excellent, it was even surpassed by that of the medical branch, who, in spite of a defective transport and many other difficulties, always had their hospitals as complete and efficient as it was possible for human ingenuity to make them. It speaks well for the skill of the department that they were completely successful in a large number of cases of abdominal wounds." You will find Captain Long's article reprinted in full, in the issue for July, 1899, of the *Journal of the Military Service Institution*, published at Governor's Island, New York Harbor. You will see also that he was not generally complaisant or friendly in his criticisms of other departments, a fact which gives greater weight to his commendatory words concerning the medical service.

SAMUEL O. L. POTTER,
Major and Brigade Surgeon, U. S. V. Attending Surgeon.

Typhoid Fever and Leprosy.

NEW YORK CITY, Jan. 20, 1900.

To the Editor: Dr. Alfredo Garces, of Colombia, says: "In places where leprosy reigns it is necessary to avoid the quick changes of temperature which might stop perspiration; such are baths in very cold water, being tired, drafts of cold air when coming from a hot room, or when just awakened, or coming from a dance, or from the neighborhood of a baker's oven, or from the ironing board. Don't live in damp places, especially during confinement, or any other illness, for experience teaches

that after a confinement, women predisposed to the disease, acquire it easily, and the same is observed in convalescence from grave diseases, as *typhoid fever;* dysentery, etc. We have instances of *all* these circumstances, etc."

Any disease may be intercurrent in leprosy.

ALBERT S. ASHMEAD, M.D.

Deaths and Obituaries.

ABRAM H. WITMER, M.D., first assistant physician at the Government Hospital for the Insane, Washington, D. C., died in that institution January 20, from complications following an attack of pneumonia. He was born near Lancaster, Pa., in 1845, and was graduated from Jefferson Medical College in 1866. He then located in Mount Joy, Pa., and after a residence of eighteen months in that city, became assistant physician at the department of the insane of the Philadelphia almshouse. About the same time he engaged as a private teacher and demonstrator of anatomy at Jefferson Medical College, remaining until 1872. In 1876 he became third assistant physician in the Government Hospital, and in a short time was advanced to the position of second assistant physician. In 1885 he was promoted to the post of first assistant physician in charge of the department for females, which he held until his death. He acted as superintendent of the hospital many times

ABRAM H. WITMER, M.D.

in the absence of the late Dr. W. W. Godding, and possessed the entire confidence of his chief. In 1888, on account of ill health, he went to Europe, visiting the English asylums for the insane, and noting the methods in treating and caring for patients. During this time he acted as a delegate to the International Medical Congress at London. In 1890 he again represented the hospital at the International Congress, and spent six months on the Continent, visiting hospitals and asylums. Dr. Witmer was a member of the AMERICAN MEDICAL ASSOCIATION, the Medical Society of the District of Columbia and many others, and was on the staff of the Georgetown University Medical College.

LEVIN E. GOSLEE, M.D., superintendent of the Central Kentucky Lunatic Asylum, died on the 19th inst., at Lakeland, Ky. He had been ill for about a week, his death being due to an organic lesion of the heart. Dr. Goslee was 66 years of age and he had been superintendent of the asylum for three years. He was born at Versailles, Ky., and graduated at the University of Louisville, beginning the practice of medicine when 20 years of age. He practiced at Carrollton up to the time that he was appointed assistant physician at Lakeland, being promoted to the position of superintendent on the death of the former superintendent, Dr. Hugh McNary. He was a member of the Kentucky State, Mississippi Valley and AMERICAN MEDICAL associations and was a prominent Mason.

CHARLES W. NEFF, M.D., died in Baltimore, Md., January 17, aged 61 years. He was born in Frostburg, Md., graduated at Dickinson College, and took his M.D. degree in New York City in 1864. During the Civil War he was surgeon at hospitals in Annapolis and Baltimore, and since that had practiced in Baltimore.

JOSEPH C. MULHALL, M.D.—Fitting resolutions have been received, as passed by the faculty of Beaumont Hospital Medical College, St. Louis, Mo., and the St. Louis Medical Society, on the death of Dr. Mulhall, of whom an obituary was given in these columns last week.

W. L. ATLEE, M.D., Philadelphia, a graduate of the Jefferson Medical College, died suddenly January 14. During the Civil War he volunteered as hospital steward, and served in the 10th Regular Pennsylvania Reserve Volunteers. He was born in Lancaster in 1842.

E. C. STARNES, M.D., Asheville, N. C., a graduate of the Jefferson Medical College, class of 1888, aged 39 years, died at his home January 6. In 1890 he was elected city physician, and in 1895 county physician. During the late war he served as surgeon, being stationed at the hospital at Fort McPherson, Ga.

We also note the following deaths:

S. P. Bartleson, M.D., Clifton, Pa., January 16, aged 69 years.

A. A. Cooling, M.D., Wilton Iowa, January 11.

C. T. Duncan, M.D., Harrodsburg, Ky., January 13, aged 35 years.

F. V. Fravel, M.D., La Porte, Ind., January 7.

George Gladden, M.D., Homestead, Pa., of Bright's disease, January 18, aged 48 years.

M. W. Hall, M.D., Roxbury, Me., aged 51 years, January 10.

L. G. Lowe, M.D., Algiers, La., January 9, aged 31 years.

G. H. Malech, M.D., San Francisco, Cal., January 10.

W. B. Montgomery, M.D., Columbia, Ky., January 15, aged 59 years.

Albert D. Orwig, M.D., Toledo, Ohio, January 15, 42 years old.

J. H. Patton, M.D., Trenton, Mo., January 12, aged 56 years.

W. B. Price, M.D., New Berlin, Ill., January 6, 75 years of age.

J. E. Schroeder, M.D., South Brooklyn, N. Y., January 13, aged 45 years.

T. A. Snider, M.D., Sacramento, Cal., January 12, aged 74 years.

Leslie E. Tefft, M.D., Elgin, Ill., aged 62 years.

E. W. Terrell, M.D., Cullman, Ala., January 13.

J. E. Thompson, M.D., Salem, Mo., January 19, aged 75 years.

Jared Turner, M.D., San Jose, Cal., January 14, aged 75 years.

E. N. Wood, M.D., Buchanan, Va., aged 74 years.

Miscellany.

Malaria-Bearing Mosquito.—A writer in the *Indian Medical Gazette* states that the Anopheles or malarial-bearing mosquito was not to be found in the small pools near houses, as had been discovered by Ronald Ross, but that he was able to find them in rice fields surrounding one of the towns.

Permeability of Hypodermic Needles.—Belin writes to the *Polytechnique Méd.*, that he does not care to put his hypodermic needles to his mouth to blow out the drop or so remaining after an injection. He keeps a small rubber bulb and tube with the syringe, and after using the needle removes it, and fits the tube of the bulb over the end. As the bulb is squeezed all the fluid is expelled from the needle.

Examination Not Required to Make an Expert.—The fact that a statute may make it necessary for a person to be examined by a medical board in order to practice medicine legally, the court of criminal appeals of Texas holds, in Sebastian vs. State, does not render it necessary for a physician to

be examined by such board before he is qualified to testify as an expert, the statute having nothing to do with his qualification as an expert witness.

Contagion Through Telephone.—A medical committee was appointed in Paris, by the Post and Telegraph Department, to report on the danger of contagion of diseases from the use of public telephones. The committee unanimously asserted that no case of disease thus transmitted was on record, and that all possible danger would be suppressed by wiping the parts of the telephone most in use with a cloth moistened with carbolized water, spraying the walls of the cabinet with the same solution and airing them sufficiently. A circular of instructions to this effect has been sent to each telephone station.

Medical Study in Russia.—The faculty of the imperial medico-military Academy at St. Petersburg has unanimously decided, with the approval of the education and war departments, to in future admit graduates of the technical as well as the classic course in the preparatory schools. This step has also recently been taken in France, but not so unanimously as in Russia. The *Presse Med.* adds to this announcement that the St. Petersburg faculty even announce that they are convinced the technical training in modern languages, physico-mathematic sciences and drawing, is a better foundation for a medical education than the Greek and Latin classic course. It has been decided, however, that as prescriptions are always written in Latin in Russia, a certain knowledge of Latin is to be required at the preliminary examination.

Yellow Fever Precautions.—The sanitary authorities of Rio Janeiro have recently signed a treaty with the National Board of Health of the Argentine Republic requiring a medical certificate from every third-class passenger embarking at Rio and Santos for Argentine ports, between November 15 and May 15, with disinfection of clothing, baggage, and other quarantine regulations, appointing a committee of one Brazilian and one Argentine physician at each port to see that the measures of the treaty are enforced. It has aroused a storm of protests from the profession at Rio, as it practically admits that yellow fever is endemic at Rio and Santos, which they assert is untrue. Some of the most prominent medical authorities, in articles over their signatures in *O Brazil Médico* and in public meetings, insist that yellow fever is not endemic but can be traced every time to infection from without, and denounce the libel inflicted on their city by the "fatal convention."

Prizes of the Paris Academie de Medecine for 1902.—The conditions are simple, and described at length in the JOURNAL of April 3, 1897. The subjects are as follows: Academy prize of 1000 francs, annual, subject, "Toxins in Pathology." Alvarenga, 800 francs, best work in any branch of medicine. Amussat, 1000 francs, for work or research based simultaneously on anatomy and experimentation, which has realized or prepared the most important progress in surgery in the last three years. Baillarger, 2000 francs, best work on therapeutics or hospitalization of mental diseases in the past two years. Barbier, 2000 francs, absolute cure for an "incurable" disease. Boullard, 1200 francs, for best work or best results in treatment of mental diseases. Bourceret, 1200 francs, best work on circulation of the blood. Dupierris, 2300 francs, for best work on anesthesia or affections of the urinary passages. Capuron, 1000 francs, relations between fibrous tumors of the uterus and pregnancy. Chevillon, 1500 francs, best work on treatment of cancerous affections. Civrieux, 800 francs, diverse forms of dementia. Clarens, 400 francs, for best manuscript or printed work on hygiene. Daudet, 1000 francs, best work on incurable affections. Desportes, 1300 francs, for best work on practical medical therapeutics. Falret, 700 francs, somnambulism. Godard, 1000 francs, for best work on internal pathology. Herpin, 1200, quadrennial: abortive treatment of tetanus. T. Herpin, 3000 francs, for best work on epilepsy and mental diseases. Laborie, annual, 5000 francs, for the work that has materially advanced the science of surgery. Larrey, 500 francs, for best work on medical statistics. Lefevre, 1800 francs, "Melancholia." Lorquet, 300 francs, for best work on mental diseases. Meynot, 2600 francs, for best work on affections of the ear. Nativelle, 300 francs, for best research in regard to the extraction of the essential principle of some drug not previously isolated. Portal, 600 francs, study of experimental inoculation and contagion of cancer. Pourat, 700 francs, experimental research to elucidate the question of the immediate or remote destination of albuminous food elements. Saintour, 4400 francs, for best work in any branch of medicine. Stanski, 1400 francs, for demonstration of existence or non-existence of miasmatic contagion, by infection or contagion from a distance. Vernois, 700 francs, for best work on hygiene. The list also includes the great Audiffred prize of an annual income of $5000 for a specific for tuberculosis, unless awarded before 1902. The prizes offered for 1901 include annuals: Chevillon, Clarens, Desportes, Larrey, Lorquet, Nativelle and Vernois. The subject for the Academy prize for 1901 is partial epilepsy from the clinical and experimental standpoint; of the Capuron, rigidity of cervix during delivery not due to cancer or fibrous growths; Civrieux, rôle of alcohol in mental pathology; Daudet, best surgical methods of treating cancer of the breast. The Jacquemier, 1700 francs, is for the work on obstetrics published at least six months previously, that has realized an important progress, and the Godard, for the best work on internal pathology. The subject for the Louis, 3000 francs, is thyroid medication and the Meynot is for the best work on diseases of the eyes; the Portal, lesions of the nerve centers caused by tetanic toxin, and the Pourat, circulation of blood in the lungs.

Losses of Volunteer Troops During the Spanish War.—The adjutant-general of the army has recently issued a *statistical exhibit of strength of volunteer forces called into service during the war with Spain, with losses from all causes.* The losses include discharges on account of disability and deaths, the latter arranged under the headings: killed in action; died of wounds received in action; died of disease; accident, drowning, suicide and murder or homicide. The total number of volunteers accounted for on the muster rolls is 10,017 officers and 213,218 enlisted men; total 223,235. Of the officers, 18 were killed in action; 90 were wounded, 3 of whom died; 119 died of disease, 4 by accident, 1 by drowning, and 3 by suicide. Of the men, 4544 were discharged for disability; 190 were killed in action; 1189 were wounded in action and 78 of these died of their wounds; 3729 died of disease, 97 by accident, 21 by drowning, 11 by suicide and 30 by murder or homicide. Among the officers mustered in were 1010 general and staff officers, including 143 belonging to the medical department of the volunteers. The only casualty among these medical officers was 1 death from disease. Of the staff officers, 3 were killed, 1 belonging to the quartermaster's department, 1 to the subsistence department and 1 to the signal corps. The statistics of the line are arranged by regiments, and casualties among regimental medical officers are not shown.

The Twentieth Kansas and First Dakota regiments each lost 3 officers killed; The First Nebraska had 2 killed and 11 wounded, of whom 1 died. The enlisted men of this regiment suffered the heaviest battle casualties; killed 19, wounded 166, of whom 13 died. The Twentieth Kansas lost 19 enlisted men killed, and 11 died from 120 wounded. The First South Dakota had 20 killed and 4 deaths among 90 wounded. These casualties occurred in the Philippines. The First U. S. Volunteer Cavalry, the "Rough Riders," had 21 killed, and 3 deaths among 97 wounded in the attack on Santiago de Cuba.

The regiments that served in Cuba suffered most from disease. The Ninth Massachusetts lost 4 officers and 110 men: the Second Massachusetts lost 2 officers and 86 men; the First Illinois 84 men; the Thirty-fourth Michigan 1 officer and 79 men: the Seventy-first New York 2 officers and 77 men, and the Ninth U. S. Volunteer Infantry 3 officers and 73 men. On the other hand, the Twenty-second New York, a full regiment of 1351 officers and men, had no death from disease during its service. The Eighteenth Pennsylvania lost only 1 man from its strength of 893, and the First Massachusetts Volunteer Artillery, 1 man in its strength of 757. Three full regiments lost only 2 men each—the Second Pennsylvania, the Third New Jersey and the Seventh Illinois. The First and Eighth U. S. Volunteer Infantry lost each 3 men, and the Fourth New Jersey 4 men.

The largest number discharged from disability in any one regiment was 145 in the Twntieth Kansas. The Second Louisiana lost 122 and the First North Carolina 115 from this cause.

As an offset to this, however, several regiments had an excellent record in this respect. The First Vermont, Second Massachusetts and Fifth Pennsylvania lost no men by disability; the First and Second Wisconsin, First Kentucky and Thirty-fourth Michigan lost only 1 man each, and the Second Mississippi and Ninth Massachusetts and Second U. S. Volunteer Infantry only 2 men each.

Queries and Minor Notes.

UNIFORM PRACTICE LAWS.

IOWA CITY, IOWA, Jan. 15, 1900.

To the Editor:—I have been informed that the present congress will have presented before it a measure providing for a national board to look after the standing of medical schools throughout the country, and to bring up the standard of instruction, so that when a man graduated from such standard schools he would be entitled to practice anywhere in the United States. If this is not the exact nature of the measure can you give me any information about it. I was informed that the AMERICAN MEDICAL ASSOCIATION and other societies are pushing the matter. If you can advise me on the subject I will be greatly obliged. M. B.

ANSWER—There is no such matter pending in Congress, and no such law could be passed, operative in the several states. Congress is without that power, The Legislative Committee of the AMERICAN MEDICAL ASSOCIATION has decided to request the state delegates to secure such legislation in their respective states at the earliest opportunity.

BACTERIA AND THE MICROSCOPE.

GREENSBURG, KY., Jan. 15, 1900.

To the Editor:—Lately, conversing with a gentleman, he remarked that in all diseases of which bacteria were supposed to be the causal origin, without exception, the microscope revealed the pathogenic bacillus in them. I claimed that while that might be the rule, it, however, had its exceptions, as in some well-marked cases of enteric fever, diphtheria, and some other diseases of supposed bacterial origin, thus denying that bacteria, as pathogenic factors, were always and "invariably" found present in such cases. Will you please tell me whether I am correct as to these exceptions—exceptions, which if true, like Banquo's ghost, have refused to be "down," even at the most imperious mandate of the strongest microscopic searchlight. Respectfully, P. C. S.

ANSWER:—Our correspondent is probably correct. Aside from the disorders that are supposed to be of bacterial origin, and the bacteria of which have not been satisfactorily revealed, there are others of unquestioned and known microbic origin in which in some stages or conditions no bacteria are found. Such a one, for example, is diphtheria, which in the form of membranous rhinitis sometimes or at some stages shows no Klebs-Loeffler bacillus with the most careful technique in microscopic examination. It may be objected that such cases are not true diphtheria, but they occur sometimes in connection with or succeeding the most unquestionable forms of the disease, the Klebs-Loeffler bacillus and all. It does not seem necessary for a bacterial disease always to reveal the germ, it may possibly, in some cases, only exist long enough to elaborate the toxin and the disorder may continue without it. This appears to be a probable explanation of the facts of rabies, and possibly also of some cases or forms of tetanus and diphtheria. Unless one holds that the bacteriologic diagnosis is the only correct one in all cases, it would seem to be a broad assertion that the germ must always be revealed. One can not, however, on the other hand, assume that germs do not exist because they are not found.

THE INDEPENDENT MEDICAL COLLEGE AGAIN.

GEORGETOWN, TEXAS, Jan. 19, 1900

To the Editor:—We have some diplomas recorded in our district clerk's office here, from a school styled thus—*Collegium Medicinae Independentia*, Chicago, Ill., etc. The faculty is as follows: J. Armstrong, M.D.; Chas. M. Hooney, L.L.D.; Thos. A. Bland, L.L.D., M. D.; M. L. Reed, M. D.; A. B. Opecka, M. D.; J. F. Cook, M. D.; F. E. Legan, M. D.; J. E. Rallison, M. D.; H. Scott, M. D. Is such a school chartered by the State of Illinois, and, if so, is it recognized by the Association of American Medical Colleges, or by the AMERICAN MEDICAL ASSOCIATION?

Fraternally, E. M. T.

ANSWER:—The charter of this "college" was revoked by the Cook County Circuit Court in 1899, on account of its being a fraudulent institution. For information as to the legal steps taken to eradicate this "diploma-mill," see THE JOURNAL of March 12, 1898, p. 630, and October 21, 1899, p. 1054.

The Public Service.

NATIONAL QUARANTINE FOR THE PHILIPPINES.

The following circular from the Division of Customs and Insular Affairs, War Department, was published January 9, 1900, by Major-General Miles to the army for the information and guidance of all concerned:

CIRCULAR NO. 35, DIVISION OF CUSTOMS AND INSULAR AFFAIRS.
WAR DEPARTMENT, WASHINGTON, Jan. 4, 1900.

The following order of the President, relative to quarantine regulations for ports in the Philippine Islands, is hereby published for the information and guidance of all concerned:

EXECUTIVE MANSION, WASHINGTON, Jan. 3, 1900.

To prevent the introduction of epidemic disease, it is ordered that the provisions of the act of Congress approved February 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," and all rules and regulations heretofore or hereafter prescribed by the Secretary of the Treasury under that act are to be given full force and effect in the Philippine Islands, in so far as they are applicable, and the following additional rules and regulations are hereby promulgated.

The examination in ports of the Philippine Islands of incoming and outgoing vessels and the necessary surveillance over their sanitary condition as well as of cargo, passengers, crew, and of all personal effects, is vested in and will be conducted by the Marine-Hospital Service, and medical officers of that service will be detailed by the Secretary of the Treasury as quarantine officers at the ports of Manila and Iloilo immediately, and at other ports in the Philippine Islands as soon as practicable or necessary.

Quarantine officers shall have authority over incoming vessels, their wharfage and anchorage, in so far as is necessary for the proper enforcement of the quarantine regulations, including vessels of the army transport service and non-combatant vessels of the navy.

Collectors of customs at ports of entry will not permit entry without quarantine certificates.

Any vessel leaving any port in the Philippine Islands for any port in the United States, or its dependencies, shall obtain a bill of health from the quarantine officer, when such officer is on duty; said bill of health to correspond to the consular bill of health now required by treasury regulations; and the bill of health shall not be given to an outgoing vessel unless all quarantine regulations have been complied with. At ports where no medical officer is detailed the bills of health will be signed by the collector of customs or other officer to whom such duty has been legally delegated. Special regulations relating to the bills of health to be obtained by vessels of the U. S. Navy will be promulgated by the Secretary of the Treasury.

The medical officer detailed under this order as quarantine officer at the port of Manila shall be the chief quarantine officer for the Philippine Islands. It shall be his duty to make appointments and removals from the service in the Philippines (subject to the approval of the Secretary of the Treasury), and he shall authorize necessary expenditures, under such regulations as the Secretary of the Treasury may prescribe.

The regulations for the government of the Marine-Hospital Service shall, so far as practicable, have force and effect in the management of the quarantine service in the Philippine Islands.

The expenses of the quarantine service will be charged against the revenue of the islands, and a sum of not to exceed three hundred thousand dollars ($300,000) in each fiscal year is hereby set aside from the revenues collected in said islands for this purpose The expenses shall be paid therefrom upon the certificate of a detailed quarantine officer and upon the approval of the chief quarantine officer for the Philippine Islands.

The chief quarantine officer shall render a report on the last day of each month to the Supervising Surgeon-General of the Marine-Hospital Service, who will issue to him necessary instructions.

The epidemic fund will be reimbursed from the revenues of the islands for the cost of disinfecting appliances and materials ordered to be forwarded to the islands prior to the date of this order.

[Signed] WILLIAM MCKINLEY.

This order to be duly proclaimed and enforced at ports in the Philippine Islands.

[Signed] ELIHU ROOT, Secretary of War.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., from January 5 to January 11, 1900; inclusive.

Peter J. A. Cleary, lieut.-col., deputy surg.-gen., U. S. A., from Fort McPherson, Ga., to Vancouver Barracks, Wash., for duty as post surgeon and as chief surgeon, Department of the Columbia.

John Ryan Devereux, acting asst.-surgeon, from Fort Warren, Mass., to Washington, D. C., for annulment of contract.

David J. Johnson, acting asst.-surgeon, from Fort Slocum, N. Y., to Fort Warren, Mass.

Richard W. Johnson, major, surgeon, U. S. A., leave of absence granted.

Henry S. Kilbourne, major, surgeon, U. S. A. now on duty in New York City, N. Y., as medical superintendent of transports, is relieved from further duty at Madison Barracks, N. Y.

Edward Lyon, Jr., acting asst.-surgeon, on the expiration of his present leave to report for duty at Fort Schuyler, N. Y.

John H. Macready, acting asst.-surgeon, from the Division of Cuba to the Department of California.

Daniel C. Moor, acting asst.-surgeon, from New York City, N. Y., to Toledo, Ohio, for annulment of contract.

Robert A. Seale, acting asst.-surgeon, previous orders directing him to proceed from Holly Springs, Miss., to San Francisco, Cal., revoked.

Hugh L. Taylor, acting asst.-surgeon, from Fort Douglas, Utah, to Waco, Texas, for annulment of contract.

Elmer S. Tenny, acting asst.-surgeon, from Winchester, N. H., to duty at Fort Douglas, Utah.

William J. Wakeman, captain, asst.-surgeon, U. S. A., from duty as attending surgeon and examiner of recruits at Philadelphia, Pa., to Fort Thomas, Ky.

Timothy E. Wilcox, major, surgeon, U. S. A., from Fort Schuyler, N. J., to Columbus Barracks, Ohio.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending January 13, 1900.

Asst.-Surgeon R. W. Plummer, detached from the *New Orleans* and ordered to the *Petrel* and also to the Cavite Naval Station.

Asst.-Surgeon D. G. Beebe, detached from the *Bennington* and ordered to the *Petrel*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending January 11, 1900.

Surgeon H. W. Austin, to report at Washington, D. C., for special temporary duty; to rejoin station at Philadelphia, Pa.

Surgeon L. L. Williams, granted leave of absence for ten days.

P. A. Surgeon G. F. Vaughan, detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

P. A. Surgeon H. D. Geddings, detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

P. A. Surgeon M. J. Rosenau, detailed as delegate to the 13th session of the International Congress of Medicine to be held in Paris, France, August 2-9, 1900: detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

Asst.-Surgeon H. B. Parker, granted leave of absence for 30 days.

Asst.-Surgeon L. D. Fricks, detailed to represent the service a the meeting of the National Pure Food and Drug Congress, a Washington, D. C., March 7, 1900.

Asst.-Surgeon W. C. Billings, detailed to represent the service a the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

Acting Asst.-Surgeon J. C. Rodman, granted leave of absence for four days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 12, 1900.

SMALLPOX—UNITED STATES.

Georgia: Brunswick, Dec. 22 to Jan. 4, 6 cases.
Illinois: Cairo, Dec. 30 to Jan. 6, 17 cases, 1 death.
Indiana: Evansville, Dec. 22 to Jan. 6, 8 cases.
Louisiana: New Orleans, Dec. 28 to Jan. 6, 19 cases, 1 death.
Massachusetts, Boston, Sept. 3 to Dec. 29, 37 cases, 4 deaths.
Nebraska: Omaha, Dec. 26 to Jan. 6, 3 cases.
North Carolina: Charlotte, Dec. 1 to 31, 2 cases.
Ohio: Cincinnati, Dec. 28 to Jan. 6, 3 cases; Hamilton, Dec. 28 to Jan. 6, 1 case; Youngstown, Dec. 28 to Jan. 6, 1 case.
Oklahoma: Shawnee, Dec. 27, 12 cases; Oklahoma City, Dec. 27, 14 cases; Yukon, Dec. 27, 4 cases.
Pennsylvania: Pittsburg, Dec. 28 to Jan. 6, 1 case.
Utah: Salt Lake City, Dec. 22 to Jan. 6, 10 cases.
Virginia: Portsmouth, Dec. 22 to Jan. 6, 4 cases, 4 deaths.

SMALLPOX—FOREIGN.

Austria: Budapest, Dec. 17 to 24, 1 case.
Belgium: Antwerp, Dec. 8 to 16, 4 cases, 4 deaths.
Bohemia: Prague, Dec. 8 to 23, 48 cases.
Brazil: Rio de Janeiro, Nov. 20 to Dec. 1, 133 cases, 94 deaths.
Egypt: Cairo, Nov. 18 to Dec. 2, 2 deaths.
England: London, Dec. 8 to 16, 1 death.
Greece: Athens, Dec. 8 to 16, 5 cases, 1 death.
India: Bombay, Nov. 20 to Dec. 5, 25 deaths.
Mexico: Chihuahua, Dec. 23 to 30, 13 deaths; Vera Cruz, Dec. 21 to 28, 1 death.
Russia: Moscow, Dec. 2 to 16, 9 cases, 1 death; Odessa, Dec. 16 to 25, 6 cases, 2 deaths; St. Petersburg, Dec. 2 to 16, 31 cases, 5 deaths; Warsaw, Nov. 30 to Dec. 6, 2 deaths.
Spain: Corunna, Dec. 8 to 23, 3 cases, 1 death; Madrid, Dec. 2 to 16, 3 deaths.
Straits Settlements: Singapore, Nov. 4 to 16, 4 deaths.
Turkey: Constantinople, Dec. 13 to 23, 1 death; Smyrna, Dec. 10 to 17, 2 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Nov. 17 to Dec. 1, 10 deaths.
Cuba: Havana, Dec. 22 to 30, 18 cases, 3 deaths.

CHOLERA.

Brazil: Rio de Janeiro, Nov. 17 to Dec. 1, 10 deaths.
Cuba: Havana, Dec. 22 to 30, 18 cases, 3 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, Dec. 25, 3 cases, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Santos, Oct. 15 to Dec. 9, 37 cases, 11 deaths.
China: Hongkong, Nov. 16 to 25, 12 cases, 12 deaths.
India: Bombay, Nov. 28 to Dec. 12, 305 deaths; Kurrachee, Nov. 25 to Dec. 9, 6 cases, 4 deaths.
Japan: Formosa, Tamsui, Oct. 17 to Nov. 28, 36 cases, 6 deaths; Kobe, Dec. 7, 1 death; Osaka and Hiogo, Nov. 25 to Dec. 2, 3 cases, 2 deaths.
Madagascar: Tamatave, Nov. 11 to Dec. 3, 10 cases, 7 deaths.

CHANGE OF ADDRESS.

Allen, T. G., from Aurora, Ill., to 338 E. 57th, Chicago.
Barker, E. S., from 718 S. Halsted to 245 LaSalle Ave., Chicago.
Crume, G. P., from Earl Park, Ind., to 503 7th St., Minneapolis, Minn.
Ehmer, J. W., from 154 E. 25th, Chicago to Northwestern University Medical School.
French, G. M., from Malden, Mass., to Suncook, N. H.
Forrester, Jos., from 814 Sassafras St., Erie, Pa., to Butler, Pa.
Hillebrand, H. J., from 799 W. Wrightwood Ave. to 863 Armitage, Chicago.
Hughes, G. M., from 241 N. 18th St., to 1831 Chestnut St., Philadelphia, Pa.
Johnstown, W. W., from Chicago Heights to Cameron, Ill.
Michener, A., from Marshall, Mich., to State Home, Geneva, Ill.
McMeekin, R. J., from Akron to 814 Genesee Ave., Saginaw, Mich.
McCall, N. J., from Twining to Elkton, Mich.
Ormsby, O. C., from Logan, Utah, to Pocatello, Idaho.
Pettijohn, J., from Humboldt, Tenn., to Commercial Hotel, Augusta, Ga.
Piper, E. D., from Waukegan, Ill., to 2116 W. Monroe St, Chicago.
Runyon, J. P., from Pine Bluff, to Little Rock, Ark.
Reed, R. C. Stockton, from SantaFe Springs to 209 S. Olive St., Los Angeles, Cal.
Smith, A. M. B., from 720 Adams to 879 Jackson Boul., Chicago.
Sprague, W. F., from Reedsburg, Wis., to 257 LaSalle Ave., Chicago, Ill.
Surphin, P. C., from Hardyville to Greenburg, Ky.
Smith, N. M., from 315 E. 5th to 600 E. Grand Ave., Des Moines, Iowa.
Stohman, H. B., from Chicago, Ill., to 752 Colorado, Pasadena, Cal.
Small, H. E., from Chicago to Academy of Music, Sterling, Ill.
Simpson, W. B., from 1312 Canal to 604 Carondelet, New Orleans, La.
Schilling, F. W., from Kent, to Louisville, Ohio.
Vedeler, C., from 618 S. 11th St., to 1029 W. 7th Ave., Denver, Colo.
Womack, C. W., from Chapel Hill, to Tullahoma, Tenn.
Wallace, T. A., from 6658 Wentworth Ave. to 170 E. 79th, Chicago.

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The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the JOURNAL free. Subscribers to the JOURNAL may become members of the ASSOCIATION without expense if they are members of medical societies recognized by the ASSOCIATION, and those desiring to have their names transferred from the subscription to the membership list should send certificates as above, with a receipt for their subscription to the JOURNAL, covering the current fiscal year.

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The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the JOURNAL for the full year, even though the membership be not continued.

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Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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Address.

THE CODE OF ETHICS.*

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WASHINGTON, D. C.

Ethics may be defined to be the adjustment of acts to ends. In medicine the acts relate, for the most part, to conduct, impliedly, good conduct, which "gains in ethical sanction" in proportion as the "activities do not necessitate mutual injury and hindrance" . . "but consist with and are furthered by co-operation and mutual aid."

In a homogeneous citizenship the evolution of conduct proceeds with the development of Christian civilization, and by common consent, becomes the type of moral standard which will unify the adjustment of acts to the attainment of a common purpose among the component constituency of any avocation in civilized life.

There is no occupation or trade without rules of conduct, either written or unwritten, which are either good or bad as the ends to be obtained rise or fall in the scale of morality and good citizenship. A man may inherit or acquire the qualities of a gentleman. He need not be a Chesterfield in manners, nor a monk in the abstemious dicipline of self-denial, but he can be a gentleman only by virtue of the adjustment of his acts to the aims of good conduct in the activities of human life. As with individuals, so with classes and communities.

The popular contention that gentlemen do not need a formulated system of ethics for their guidance is flatly contradicted by the history of every ecclesiastical and parliamentary body, social club, business organization, scientific society, and the unwritten *esprit de corps* of numerous classes of educated and cultivated people. In fact, in many instances, the unwritten ceremonial requirements of classes and of society in general are more rigorous and less tolerant than those of formulated systems of ethics. The inherent right of private judgment can not be protected, either in public or private life, without the restraint of accepted authority. Two persons may differ in opinion, on any debatable question, but neither has the right to push the difference to physical collision or sink it to the grade of moral turpitude.

In small populations, as with occupations with limited constituencies, the evolution of good conduct develops along the line of co-operative and mutual adjustment of acts in the promotion of the common good, but with increasing numbers "one is forced to live more and more in the presence of his fellows." In large and constantly increasing populations and membership in occupations, heterogeneity may, and frequently does, become a disturbing element, and organization with defined limitations of restraint and toleration becomes an important and necessary factor in the evolution of the highest type of ethical conduct. In other words, those acts which may be, as well as those which should not be, done must be set forth in such manner and form as may best promote the attainment of the highest standard of mutual good conduct.

Medicine is a composite science, and is, confessedly, the most difficult and intricate of sciences. The medical profession is, perhaps, the largest and most broadly educated class in every civilized community. Accessions come to it from every class and race of civilized people. In the broadness of thought and the beneficence of its acts and ends it invites every class and caste of civilized races to its ranks, that it may continuously widen and expand the scope of its usefulness and philanthropy to the end that every person and all peoples may seek and obtain through its good offices the full measure of a beneficent science.

In this country the evolution of medical ethics culminated in the adoption, at Philadelphia, in 1847, by a body of representative men—now known as the American Medical Association—of a code of American medical ethics, which, with a few explanatory declarations, has been accepted by the profession at large as the common basis and guide of good conduct. Previous to that date the profession, in a few isolated localities, had established codes to segregate the qualified and honorable from the charlatan and mercenary impostor, with satisfactory results.

The unanimity of its adoption, general acceptance and continued enforcement through half a century, without material alteration, eliminates any doubt of the wisdom of the adoption of such a system of good conduct. The question of policy being, therefore, settled, this discourse will be limited to the consideration of such salient features as set forth the influence of the unification of ethical conduct, to the end that every member of the profession of medicine may exert "his best ability to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness."

The code is subdivided into three sections, under the separate headings of: "The Duties of Physicians to Their Patients;" "Obligations of Patients to Their Physicians;" "Of the Duties of Physicians to Each Other, and to the Profession at Large;" "Of the Duties of the Profession to the Public, and of the Obligations of the Public to the Profession." The principles outlined in these headings are emphasized in detail, so that the whole is a concrete expression of the consensus of opinion of the duties and obligations which constitute the highest ideal of ethical conduct.

"Every individual on entering the profession becomes thereby entitled to all of its privileges and immunities," and, "should therefore observe strictly such laws as are instituted for the government of its members." Every

* Annual Address of the President of the Medical Society of the District of Columbia, delivered Dec. 20, 1899.

organization of physicians which by the adoption of its code of ethics, becomes affiliated with the AMERICAN MEDICAL ASSOCIATION must possess the inherent right to prescribe and enforce such restraints as may, at times, be needful to dicipline refractory members. Dishonorable conduct must have a limit. The Code, however, is free from any threat of restraint by prosecutions and penalties. It seeks to promote the evolution and unification of ethical conduct by sharply contrasting good and bad conduct and by marking the border line beyond which misdemeanor becomes a *corpus delicti*. It appeals to the nobler qualities of a higher standard of moral excellence and beneficence, in that the physician may be the minister of hope and comfort to the patient, and bases this appeal on the postulate that as the standard of qualification advances, so should ethical conduct rise along the gamut of evolution. "No scientific attainment can compensate for the want of correct *moral principles*." The Code pleads for mutual forbearance, fraternal courtesy and a broad and generous fellowship, that contumely, bickering, and discord may not fritter away the power and influence of the profession for good. Probity, candor and truth are qualities not less essential in support of professional character. "There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patients." In such incisive words the Code vouches for honor and integrity, and stamps the derelict with the seal of condemnation.

The inviolability of the confidential communications of patients to their physicians is the first and most sacred obligation of professional life. It has come to us through the ages past as an unbroken rule of conduct, and all codes of medical ethics stigmatize with dishonor the voluntary disclosure of such confidences. The precept of the Code extends the obligation of secrecy beyond the period of professional service, to the end that "none of the privacies of personal or domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged except when imperatively required to do so." The force and necessity of this obligation are so great the profession has sought the protection of statute law. In twenty states and in this District such laws have been enacted, the object of which is the extension to citizens of liberty of privileged communications and their protection in the enjoyment of the rights of unreserved and confidential confession to physicians. Such statutes add the force and fiat of law to the decree of the medical profession, which has always and everywhere throughout the civilized world resisted the compulsory disclosure in open court of information "acquired in attending a patient in a professional capacity and which was necessary to enable the physician to act in such capacity."

With equal cogency the system of ethics sets forth the obligation of qualification: "Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice." To this is added the more authoritative declaration that "a regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession." So also does it insist that "the public ought likewise to entertain a just appreciation of medical qualifications, to make a proper discrimination between true science and the assumptions of ignorance and empiricism." These significant averments point to a high standard of scientific acquirement and expand the scope of ethical conduct.

Medical ethics, as formulated in the national Code, combines knowledge with morality, and emphasizes in spirit, if not in letter, the truism, that in medicine the highest attainment of either can not compensate for the want of the other.

The educational influence of the Code is attested by history and observation. The assemblage at Philadelphia, in 1847, was composed of the most distinguished and best equipped medical men from all parts of the country, who had come together to confer and devise a plan of organization, which should have for its object the unity of the profession on a basis that would define the duties and obligations of each individual member to each other, to the profession and to the public at large, thereby creating a compact body that would assert and make effective its prerogatives pertaining to the promotion of good conduct and elevation of the standard of medical education. Whilst the maximum development along these lines of progress has not been reached, sufficient has been accomplished to invoke the gratitude of every true and conscientious physician. It gave impetus to new thought, out of which have come the state medical practice acts; state and municipal sanitary legislation; the organization of health boards, associations, and departments; improved, enlarged and higher medical college curricula; a higher grade of scientific attainments; a more complete, and better adapted hospital construction, and improvement in hospital management; the protection, not yet complete in all the states, of the confidential communications of patients to their physicians from exposure in open court; and, with all, a wider scope of beneficence, a broader utility and more general diffusion of knowledge of sanitation and public hygiene. These and other reforms are the outcome of those precepts in the Code, which enjoin the duties of good citizenship.

The educational obligations are not, however, limited to the promotion of a higher standard of professional qualification. Under the heading of "obligations of patients to their physicians," the Code sets forth some very simple and general recommendations, which might contribute to the comfort and well-being of patients and increase the efficiency of medical service. "The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly, have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants." No suggestion is made to interfere with the right of selection, but it does insist that a medical adviser shall be one who has received a professional education. Nor is the right to dismiss a physician denied, but justice and common courtesy require that the reasons for such dismissal should be declared. No physician not cognizant of the causes of his dismissal, can protect himself from sinister innuendo and defamation of character. Candor and frankness on the part of dissatisfied patients or their friends, and forbearance with good temper on the part of the physician, would eliminate, in most such cases, friction and discontent. Patients naturally depend on the skill, attention and

fidelity of their physicians, who should so "unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence." If every case committed to the care of a physician was treated "with attention, steadiness, and humanity" we would, probably, hear less of antagonism between physicians and patients, and professional work would more frequently result in mutual benefit.

The duties of physicians to the public comprise another educational function, which is so distinctly stated that nothing more is needed to invite attention than its re-statement in the language of the Code: "As good citizens it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc.; in regard to measures for the prevention of epidemic and contagious diseases," and "when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical." The American Public Health Association is the outgrowth of these injunctions, and has, perhaps, accomplished more than any other organization in the fulfilment of the "duties of physicians to the public," by popularizing the study of the science of sanitation and promoting legislation in the interest of public health. In some measure it has removed the mask of exclusiveness, which obstructs the diffusion of useful knowledge among the people, and enlarged the opportunities for the practical application of the duties and obligations of good citizenship.

The very generous and magnanimous compliance of the profession with these injunctions has enlarged the sphere of its humane and beneficent instrumentalities, thereby contributing to the welfare of communities in the diminution of disease, preservation of health and prolongation of life. So much has been accomplished along these special lines of progress that one is surprised at the defiant antagonism of the lay directories of some hospitals and other medical charities, and of legislative bodies, which seek by hostile interference, and other reprehensible practices, to limit and thwart the counsel of those who are the only competent advisers. Such obstructive methods will not cease until the profession asserts and maintains its prerogatives in all the offices of good citizenship which pertain to the health of communities.

There is another thought entitled to consideration in this connection, which invokes a more general fellowship with the great body of scientists, and that larger class of persons, not specialists in any branch of science, but patrons of learning, seeking to acquire and diffuse knowledge among all classes of educated people. The profession must abandon the privacy and exclusiveness of the closet and meeting-room and engage more widely and effectively in the education of the public in preventive medicine, in which lies the hope of obtaining the highest aims of scientific medicine.

In affiliation with other local scientific and learned bodies constituting the Washington Academy of Sciences, this Society has entered a new and larger field of usefulness, which abounds in the opportunities of a broader conception of its duties and obligations that it may live more and more in the presence of the public at large. Scientific medicine must fail in its mission of humanity and beneficence in so far as it falls short of asserting the inalienable right to lead, direct, control and dominate popular ignorance, prejudice and cupidity, to the end that legislators and all others in authority must come to know its force and power in all things pertaining to the advancement of sanitary science and preventive medicine. The art of healing can not be dissociated from the science of prevention. The education and betterment of the people in sanitation is not less humane than the healing of the sick. During recent years this Society has made creditable progress in this department of medical policy, and now, with the co-operation of cognate and allied associations, it must hope to accomplish other reforms, still in abeyance through lack of information on the part of a suffering community.

The beneficent, moral and educational functions of the Code are more distinctly and conspicuously set forth than the lucrative. Moral duty "is independent of and superior to all pecuniary considerations," nevertheless, the services of physicians "are of such a character that no mere pecuniary acknowledgements can repay or cancel them." And inasmuch as the office of a physician can not "be supported as an exclusively beneficent one," it is the duty of the faculty in every town or district to "adopt some general rules, relative to pecuniary acknowledgements from their patients, and it should be deemed a point of honor to adhere to the rules with as much uniformity as varying circumstances will admit." Justice and equity are distinctly contrasted with mercenary extortion and gratuitous services to the affluent.

Non-sectarianism is a cardinal tenet of the Code. There is not one article or clause in it "that interferes with the exercise of the most perfect liberty of individual opinion or practice," or that interdicts, under any circumstances, professional services whenever there is pressing or immediate need of them. It does, however, assert that professional abilities and acquirements "ought to be the only acknowledged right of an individual to the exercise and honors" of the profession, and excludes from such association those whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the "aids actually furnished by anatomy, physiology, pathology and organic chemistry." In no trade or occupation do "mankind rely on the skill of an untaught artist." Medical knowledge is not intuitive. Every physician must "rely upon the rectitude of his judgment," because there is no tribunal other than his own conscience, enlightened by knowledge, to adjudge the penalties of carelessness, neglect or ignorance. The creed of medicine condemns the idolatrous dogmas of divine metaphysics, divine healing, "Christian Science," and other equally fraudulent practices, and relegates them to the jurisdiction of criminal codes.

The spirit and precepts of the Code have been legalized in most of the states by medical practice acts. In this district three systems of medicine have been legalized, with the requirement of the same standard of qualification of all licentiates in the branches of anatomy, physiology, chemistry, pathology, hygiene, histology, surgery, obstetrics and gynecology, diseases of the eye and ear, and medical jurisprudence, leaving the qualifications in the branches of materia medica, therapeutics and practice to be determined by the special

requirements of each system. The movement, which originated with this Society, now in progress to unify the requirements of the state medical practice acts, is in the direct line of the teachings of the Code, and it may be desirable, in the near future, to eliminate from these acts all reference to different systems of medical practice and base the issuance of licenses to practice medicine on a uniform standard of qualification in the sciences which make up the science of medicine, leaving the disputed problems of therapeutics to the enlightened and conscientious judgment of licentiates.

Persistent misrepresentation of the non-sectarian spirit of the national Code of Ethics did in some measure, for a time, interfere with the progress of medical education, but with the inauguration under the auspices of the Code, of the new era of a higher standard of qualification, legislatures have come to know their constituencies would not longer tolerate the prevailing ignorance among practitioners in the "sciences which make up the art of medicine." By these adjustments of acts to ends, good conduct has obtained the sanction of law and the teachings of the Code have been re-inforced by the will of the people. Much, however, remains to be done, and the profession can not hold itself blameless for such shortcomings as may retard or impede the progress of education.

To such extent has this misconception grown that many people and some physicians believe the appellation of allopathy to the regular medical profession is a complimentary designation, and not, as intended, an opprobium. If there is a class or sect of people who hold the therapeutic doctrine that diseases are curable by the production of other diseases, such persons are outside of the regular profession and not fit to practice the healing art. The Code denominates its adherents and followers, "the regular profession," not in any invidious spirit, but because the system is based on a knowledge of the sciences which make up the science of medicine.

In matters of etiquette, ceremony, intercourse and consultations, the Code is distinctly advisory, but not in any sense mandatory. To promote the best interest of patients and to avoid reprehensible and contumelious interferences, professional intercourse must be guided by such uniform rules of good conduct as may conduce to harmony and co-operation in act and spirit. No hard and fast regulations can be made applicable in all cases. In exceptional instances all rules are subordinated to the emergency which demands immediate aid, but no circumstances can justify dishonorable and ungentlemanly conduct. If consultants were permitted to rush pell-mell, before the time agreed on, into the sick chamber, proceed with their examination without the aid to be furnished by the attendant, consultations, which are for the benefit of the patients, would in most cases be unsatisfactory, and in many disastrous to patients. The Code advises consultations in difficult and protracted cases, because they "give rise to confidence, energy and more enlarged views of practice," and enjoins on the consultant "the most honorable and scrupulous regard for the character and standing of the practitioner in attendance." To this end uniform formalities of etiquette and decorum dignify and emphasize the *esprit de corps* of professional intercourse, but really are of infinitely greater importance to the welfare of the patient.

Misconception of the tenor and misrepresentation of the purpose of the formal declaration of the duties and obligations of physicians in support of professional character have given rise to much inane criticism and sometimes sneering denunciation of medical ethics. There are very many good and well-meaning people who can not understand why physicians should not submit to their unstable will, and change and modify the ordinary courtesies of good conduct to sanction interference or to gratify caprice. Medicine is a deliberate and painstaking science, conducted as will best conduce to the attainment of its highest aims. It is not an emotional profession, to be swayed by every outburst of bad taste, bad breeding, ingratitude and discontent. If the Code tolerated submission to malevolent criticism and malign detraction, the practice of medicine would be degraded to the slavish service of menial servility. Medical men with loose and unethical methods, and others who have agreed on their honor to comply with the system of ethics have incited popular censorship by their failure or refusal to comply with its precepts.

No part of the Code has been so much assailed by dissenters and pretenders as that section that declares it "derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills inviting the attention of individuals afflicted with particular diseases, publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints or suffering such publications to be made; to invite laymen to be present at operations, to boast of cures or remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician." These are the most positive interdictions of the Code. They set forth and condemn such meretricious methods to gain popular favor. Medicine is not a mercantile occupation, but a beneficent and life-saving science, and can not, therefore, accept the rules and practices of trade and business as the guide of good conduct in matters pertaining to the discharge of its special duties and obligations. The medical profession would soon sink to the level of the advertising and mercenary quack if it permitted its members to display their qualities and successes in the public press, or in hand-bills through the bill-poster, or in bulletins thrown into the doorways of private dwellings. In the rivalries of such reprehensible practices the ignorant and most unscrupulous would always be in the lead, and chicanery, duplicity and falsehood would be the winning qualities in the fierce struggle for subsistence.

"Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument," medicine or discovery, to dispense a secret nostrum, "or to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." The public at large can not appreciate the force and necessity of these restrictions, because it fails to discriminate between the objects and methods of business and those of a beneficent and liberal science, which seeks to promote the welfare of the people. The patenting of surgical instruments, medicine and discoveries is not only "inconsistent with beneficence and professional liberality," but would retard the progress of medical science and limit the sphere of its good offices and usefulness. If Jenner had patented the discovery of vaccination, smallpox would have continued to scourge the world. In what condition would medicine and surgery be to-day, if Morton and Simpson had, respectively, patented ether and chloroform anesthesia? The lessened mortalities in medicine, surgery and mid-

wifery, due to these discoveries, can not be measured by the money value of the agents employed. If Sir James Simpson, Gustave Simon and Marion Sims had patented their inventions and discoveries, gynecology could not have reached its present state of development. In fact, surgical gynecology must base its achievements on the discovery of anesthesia in 1846, and the invention of the duck-bill speculum in 1848. If antisepsis had been patented, Lord Lister would not now be a peer of England, but a private citizen of Scotland, living, perhaps, on the accumulated royalty of his patent. Honor comes to whom honor is due, but never to one who traffics in beneficence. Such are some of the illustrations going to show the wisdom of these interdictions.

In this connection I must invite attention to another injunction, to the effect that physicians should exercise "their option in regard to the shops to which their prescriptions should be sent." The time has come when the public welfare and individual reputations impose this obligation on practitioners of medicine. The claims of right, by pharmacists, to prescribe across the counter, to sell poisons without restraint of law, to repeat and duplicate a prescription containing poisons without the knowledge and consent of the physician making it, and to dispense it to others than the original holder, have become such common evils, fraught with such danger to health and life, as to demand regulation by statute law. It may be that if any organized body of physicians should issue and enforce its mandate that patronage would cease with the continuance of the practice, the evil would diminish. While reputable pharmacists might accept the option of physicians as the rule of conduct, there are others who openly and defiantly declare their purpose to disregard any such restriction.

Proprietary pharmacy is the most pretentious of the artful devices of empiricism. The daily mails bring to every physician the advertising bulletins of proprietary pharmacists, filled with the certificates of physicians, setting forth the wonderful virtue of some special compound, mixture, tablet, or pill, each of which is extolled as a panacea for diseases having no etiologic nor pathologic relation to each other, and the credulous practitioner goes forth on his daily rounds enthused with the single idea that he has at last discovered a remedy with which he can drug, dose or feed every patient, and, when the day's work has been finished, congratulates himself with the accomplishment of the highest aims of a beneficent science.

The National Code of Medical Ethics is the official declaration of the policies of the regular medical profession of this country. As such it will continue to command the respect and attention of those who believe that ethical conduct is an element of success in the attainment of the confidence of the public. Observation and experience attest the soundness of this belief. Popular censorship never fails the detection of apostasy, and is quick to stamp dereliction with the badge of dishonor. No physician ever failed in the practice of medicine because of his high ethical standing. The occasional loss of a client because of adherence to the prescribed rules of good conduct is much less frequent than losses from such irregularities as invoke professional criticism and discontent of clients. Those who stand on the highest plane of ethical conduct and highest standard of professional qualification will most surely command the respect, confidence and admiration of the public; and reap the richest reward. The more the Code is studied, the more highly will its precepts and policies be appreciated, and the more widely will it be accepted as the guide of good conduct.

Original Articles.

ETIOLOGY OF NON-MALIGNANT RECTAL STRICTURE IN WOMEN.*

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CHICAGO.

Complete or partial narrowing of the rectum, having its origin in developmental anomalies, will not be considered in this paper.

Acquired rectal strictures are much more common in women than in men. Gosselin and Dubar[1] estimate the proportion as 4 women to 1 man. Of the cases of rectal strictures collected by Juliusburger[2], there were 103 women and 15 men, or about 7 of the former to 1 of the latter. Out of 110 cases treated by Allingham[3] in St. Mark's Hospital, there were 92 females to 18 males, or in the proportion of 5 to 1. The ratio is even greater in Cripp's[4] series of 70 cases, as out of this number there were only 7 males, or in the proportion of 9 to 1. Carré's statistics in 266 collected cases show 4 women to 1 man afflicted with the disease. The same ratio was found by Gant[6] in 25 cases, while the proportion in the 21 cases recorded by Quénu and Hartmann[7], in their recent work on the rectum, is considerably less, since there were only twice as many men as women. The only exception seems to be Kelsey[8], who in a series of 99 non-malignant strictures found 64 in males and 35 in females, or nearly twice as many males as females. However, the preponderance of evidence is in favor of the relative frequency of the condition in women, and justifies the presentation of the subject for discussion before a special society such as ours.

For the purpose of etiologic study, strictures of the rectum are conveniently divided into: 1, those where the caliber of the tube is diminished by pressure from without, organic changes in the rectal walls being secondary; 2, those where the rectal walls are primarily affected, narrowing of the rectum resulting from these organic changes.

1. *Strictures due to pressure from without.*—A tumor occupying the pelvic basin may so encroach on the rectum as to produce a decided hindrance to the passage of the fecal mass. It is exceptional, however, for a complete stricture to be formed, except in the presence of malignant growths, or localized inflammations of the mass where the increased pressure arises from bands of adhesions rather than the increase in size or peculiar position of the tumor. The writer recently recorded a case where temporary complete obstruction resulted from the pressure, on the upper part of the rectum, of what was found to be a malignant growth springing from the sacral region.[9]

In women this class of rectal strictures is usually caused by suppurative disease of the appendanges. Kelsey[10] reports an interesting case of a double stricture of the rectum caused by a pelvic abscess. Couper[11], Biggs[12], Balzer[13], and Quénu and Hartmann[14] have reported similar cases. At the present time, the true cause of the stricture is recognized and the condition rectified by the appropriate surgical procedure. Neglected cases, where the appendages are matted together and compress the rectum by dense adhesions, sometimes are not benefited by the removal of the genital organs, as illustrated by the following case in the writer's practice:

*Read by title before the American Gynecological Society, May 25, 1899.

The patient was a woman of 38, who had had attacks of pelvic peritonitis for fourteen years. On three occasions an abscess had been lanced through the vagina. In the past four years she had experienced more and more difficulty in obtaining bowel movements. An examination showed the pelvis filled with an exudate, in which uterus and ovaries could not be distinguished by means of bimanual examination. The rectal examination showed the bowel compressed against the coccyx by the pelvic mass. The uterus and appendages were removed through an abdominal incision, the adhesions being so dense that fingers were of no avail and the knife and scissors had to be employed. The patient recovered from the operation, but the symptoms of rectal stricture recurred gradually. A rectal examination, made about six months after the operation, revealed a stricture due to perirectal inflammatory tissue, situated about 2½ inches above the anus. The forefinger could not be forced through the compressed portion of the intestine. Any operative procedure short of a colotomy would have been of no avail. This the patient refused, and the case was lost sight of.

2. *Strictures resulting from organic changes primarily affecting the rectal walls.*—As in other organs of the body, an inflammatory infiltration of the rectal walls followed by an increase of connective tissue may lead to contraction and stricture of the rectum. Since these changes are distinctly inflammatory in their nature, strictures resulting therefrom can be grouped under one head, whether the primary cause of the inflammation be trauma, dysentery or syphilis. Whether a gross or microscopic examination of these strictures will enable one to definitely determine the primary or underlying cause in each case is still a mooted question, and because unsettled has had much to do with the preparation of this paper.

For convenience, the causal conditions which have preceded the inflammatory changes may be considered under the following heads: Trauma, dysentery, gonorrhea, tuberculosis and syphilis.

Trauma.—It is evident that an injury to the mucous membrane of the rectum, severe enough to cause loss of substance and ulceration, could result in a stricture. Foreign bodies introduced by the mouth or anus may be the cause of such injuries. Numerous instances have been recorded where bottles, wine-glasses and similar objects have been introduced into the rectum either by the insane or sexual perverts [15, 16]. However, a search through the literature has failed to reveal any recorded case where a stricture could be positively traced to the results of such violence to the parts. Of more interest is the alleged dependence of rectal stricture on protracted labors, associated with long-continued pressure of the head on the rectum. Allingham[17] mentions a case of this kind in a woman with no history of tuberculosis or syphilis. The stricture was almost complete, and was relieved only with difficulty. Quénu and Hartmann[18] have recently reported a case of stricture following a severe labor of thirty-six hours, ended by craniotomy. The stricture was complicated by rectovaginal and vesicovaginal fistulas. It is not improbable in this case that the stricture was caused by a perirectal inflammation superinduced by puerperal sepsis. In fact, this may be the true explanation of the majority of these strictures.

Not infrequently unskilful operations on the rectum, such as the removal of too much tissue in operations on hemorrhoids, the failure to secure union in the White head operation[19-20], etc., may be followed by stricture. Any resection of the rectum is liable to result in stricture, because of the difficulty of securing primary union between the proximal and distal extremities of the intestine.

Dysentery.—Since dysentery is marked by ulcerative processes in the colon and rectum, it has been assumed that large ulcerative patches formed by the confluence of a number of ulcers could result in the contraction of the affected part. This is the more probable since it has been shown by post-mortem examinations that the submucosa and muscularis can be invaded by the dysenteric ulcers. But, as pointed out by a number of authors, diarrhea consisting of mucus, pus and blood, accompaniments of any stricture of the rectum, has been called dysenteric, when in reality such was not the case. Undoubtedly strictures have followed a true dysenteric process, or the dysenteric ulcers have served as points of entrance of other germs, which in turn have led to inflammation, connective tissue hyperplasia, and narrowing of the rectal tube. Ballance[21], Costex[22], Allingham[23], and Quénu and Hartmann[24] report cases where there can be but little doubt as to the dysenteric origin. It probably is an exceptional outcome, considering the large number of people afflicted with dysentery. Woodward[25] calls attention to the fact that no case of rectal stenosis consecutive to dysentery has ever been reported to the surgeon-general, either during the war or since. In the writer's four years' experience as pension examining surgeon, although many hundred applicants were examined who complained of disabilities resulting from army diarrhea and dysentery, no cases of stricture were found, although each applicant was subjected to a careful rectal examination.

Gonorrhea.—Although occasional mention is made by the older writers, of gonorrhea of the rectum, the first undoubted case may be said to have been reported by Hecker[26], in 1788. Since that time more and more attention has been directed to the possibility of the rectal mucous membrane being a not infrequent seat of the disease. Yet even in recent years, since the discovery of the gonococcus has enabled the disease to be absolutely demonstrated, there is considerable controversy regarding its frequency. Wolff[27] had never met with rectal gonorrhea in women. Verchère[28], in a service of 800 patients, two-thirds of whom had genital gonorrhea, had never seen a case of gonorrhea of the rectum. Schultz[29], on the other hand, found 14 with rectal gonorrhea out of 174 women suffering from genital gonorrhea, and Bear's [30] statistics show even a larger percentage, for out of 429 cases of gonorrhea in women, 38.2 per cent. were found affected. These conflicting statistics can only be explained on the supposition that the proper methods of examination were not employed where the disease was not found.

In the same way, formerly gonorrheal ulceration was thought to be quite uncommon, but Bear, in the same article, states that it is not infrequently present. From studies of gonorrheal inflammation in more accessible parts of the body, it has been found that, while the gonococcus produces an intense surface inflammation, the underlying tissues are also affected, round-celled infiltration, connective tissue hyperplasia, and subsequent contraction resulting in a certain proportion of the cases.

If, then, gonorrhea can produce a proctitis, proliferating and stenosing, are we justified in assuming that in this lies the explanation of the frequency in women of rectal strictures? While gonorrhea may be the exciting cause of rectal stricture in a certain proportion of the cases, it is still far from being proved. It is assuming

too much and jumping too quickly to a conclusion to say that because gonorrhea of the rectum exists, it and not other conditions must be responsible for rectal stenosis.

Tuberculosis.—Ball[31] calls attention to the fact that a considerable proportion of cases of rectal stricture die from pulmonary phthisis, and thinks this "tends to show that in all probability a larger number of cases have really commenced in rectal tuberculosis than has hitherto been recognized.

Tubercular ulceration and stricture of the rectum have been noted for some time; especially was it found that tubercular disease of the rectum was liable to follow dysenteric ulceration. Tillaux[32], in 1894, published a case which he considered tubercular, but bacteriologic proof is wanting. It remained for Sourdille[33] to furnish these proofs, he being able to demonstrate the tubercular nature of a stricture of the rectum, a piece of which had been removed for microscopic examination during a posterior rectotomy. Inoculations also showed the tubercular nature of the disease.

In another communication, Sourdille[34] exhaustively considers the question of tubercular strictures and reviews the records of seven such cases. He thinks that at least one-third or one-fourth of the cases commonly supposed to be syphilitic are in reality tuberculous. This probably is an overestimate, but it at least serves to call our attention to the importance of carefully examining each case for the existence of the disease. An interesting feature, emphasized by the same author, is that the starting-point of the disease may not be a tubercular ulceration, but a submucous infiltration of the rectal walls, gradually ending in sclerosis and contraction.

Syphilis.—Whatever may be the rôle played by syphilis in the production of stricture of the rectum, it can not be denied that a relatively large proportion of those in which the condition exists give a syphilitic history.

Poelchen[35] states that in 119 patients suffering from rectal stricture, a doubtful syphilitic history existed, in 96 there was a positive history of the disease, while in only 6 could it be absolutely eliminated. Juliusburger[36], in 118 collected cases, has noted other syphilitic lesions 47 times, and in 25 cases a positive history of syphilis, the proportion affected by syphilis being 66 per cent. Godebert[37], in 67 cases, finds 47 with syphilitic histories.

Gosselin[38] seems to have been one of the first to deny that all strictures of the rectum were of syphilitic origin, a belief quite universally held up to this time. The writer, from a careful perusal of his paper, agrees with Kelsey[39] that Gosselin has been misquoted, and that he did not intend to convey the idea that strictures were due to chancroids extending upward, but that the disease is simply a local manifestation, due to the presence of the chancres and consecutive to the inflammation they have caused. Fournier[40] believes in the existence of a specific fibrous infiltration of the rectal wall, and possibly ending in an ulceration of the mucous membrane. From the contraction of this fibrous tissue results the so-called syphilitic stricture of the rectum. This anorectal theory of Fournier will not explain all cases of what may be justly considered syphilitic strictures, when they result from the contraction of large ulcerations of the mucosa and submucosa. These lesions are consecutive to the breaking down of gummatous deposits in the rectal wall. (Esmarch[41], Tuttle[42].)

Within the past few years two opinions stand forth prominently regarding so-called syphilitic rectal strictures. There are those who, like Schuchardt[43] and Rieder[44], claim that microscopic examinations of excised strictures show clearly that they are of syphilitic origin, and secondly, those who, like Duplay[45], Kelsey[46], Quénu and Hartmann[47], believe that a diagnosis of syphilis can not be positively made with the microscope, and that clinical and pathologic examinations of rectal strictures tend to show that they are due to a proctitis, among the causes of which may be numbered syphilis.

In his microscopic examination of rectal strictures removed from persons known to be syphilitic, Rieder has found that the arteries are nearly always normal, that the veins are markedly diseased, and that there is a chronic inflammatory infiltration of all the layers of the intestinal wall. The older the case, the more connective tissue is there present. By a special staining method of his, Weigert[48] is able to bring out elastic fibers about the veins. In the last stages of the disease very few changes characteristic of syphilis can be made out. Reider gives the name "venosclerosis syphilitica" to the changes about the veins, but admits that they may be produced by processes other than syphilis. Reider also seeks to explain the frequency of rectal stricture in women on the basis of a spread of the syphilitic virus by means of the veins. The initial seat is usually situated near the fourchette, and from here to the lower rectal veins is a much nearer route than from the foreskin of the male to the rectum by way of the vesical veins.

Schuchardt considers certain bluish-red nodules, to be found on the surface of the mucosa, pathognomonic of syphilitic disease. The submucosa is involved simultaneously with the mucosa. Breaking down of the tissues follows and cicatricial contraction results. It would seem as if Schuchardt had not succeeded in proving the correctness of his conclusions, for it is well known that gummata can not at all times be distinguished from certain tubercular formations. It may be noted that Rieder's statements regarding the involvement of the veins to the exclusion of the arteries is confirmed by the microscopic findings in one of Quénu and Hartmann's[49] preparations. Certainly, if it be left to microscopic examination to determine the syphilitic character of the disease, it is hardly just for this examination to be made in the last stages of rectal stenosis, when all that remains is a mass of sclerotic tissue. Future examinations made in the early stages of the disease will prove of the greatest value, and it is to be hoped that such investigations will be forthcoming.

As a slight contribution to our knowledge of the subject, the following case is reported. The patient was shown Dec. 7, 1898, before the Chicago Medical Society[50].

Mrs. K. R., married, aged 35, gave a negative family and no history of congenital syphilis. The menstrual periods, although painless, have never been regular. She was married fourteen years ago, and three years later gave birth to a male child who has shown no constitutional taint. No history could be obtained of acquired syphilis, gonorrheal infection or ulcerations about the anus or within the rectum. Since girlhood the patient has suffered from an obstinate form of constipation, evidently aggravated by neglect, as she only went to stool at intervals of several days. Eight years ago she noticed that the fecal masses were becoming smaller and flattened. From this time up to the present she has experienced more and more difficulty in evacuating the bowels, until before applying to the clinic she had not had a passage for nearly two weeks. Of late she has had considerable discharge of pus and slime from the anus. For the past year she has been gradually losing flesh and

strength. Examination showed the patient considerably emaciated. The heart, lungs and kidneys were normal. There were no physical characteristics of constitutional disease. A vaginal examination showed the uterus to be retroverted and the appendages enlarged and adherent. Rectal examination revealed, one inch above the external sphincter, a dense tubular stricture of the rectum through which the finger could not be forced. By the vagina the thickened gut wall could be traced upward some inches, although the upper extremity could not be reached.

In March, 1898, nine inches of the rectum and sigmoid flexure were removed through an abdominal incision, an anastomosis between the upper and lower fragments of the gut being made outside of the anus by a modified Monsell operation. The patient made a perfect *recovery, gained sixty pounds and was perfectly* well when last seen, one month ago, a year after the operation. Before the rectum was enucleated, the appendages, consisting of a pyosalpinx on one side and a hydrosalpinx on the other, were removed. The following is the report of Prof. F. Robert Zeit, of the Klebs Pathological Laboratory, Post-Graduate Hospital:

Report on Case No. 409.—Specimens received for examination: Stenosis of the rectum. One ovary with dermoid and hydrosalpinx of same side. Other ovary adherent to tube with hemorrhagic follicle. Pyosalpinx of same side. Microscopic examination of pyosalpinx shows a dense infiltration of all three coats of the tube, with hyperplastic mucosa. The intima of all vessels is greatly thickened. Endarteritis obliterans present, with thrombi containing pigment. The same pigment is found also in the tunica intima. None in the tunica muscularis of these arteries. Endarteritis obliterans and thickened intima is also found in the walls of the hydrosalpinx. The stroma of the distended tube is densely infiltrated. The ovaries *show much small-cell infiltration, some hyaline degeneration* of vessel walls, with several hydrops folliculi and a corpus fibrosum. The rectum presents an hypertrophic muscular coat, with much small-cell infiltration and thrombotic vessels, thrombi containing pigment. The mucosa is slightly hyperplastic, but otherwise normal. Weigert's new stain for elastic fibers brings out numerous partly obliterated lymphatic vessels and small veins, but the larger vessels do not show any marked increase in elastic fibers. The intima of the arteries is not perceptibly thickened. Around the veins much small-cell infiltration still exists.

This case presents many interesting features. There was absolutely no history nor evidences of syphilis, yet the microscopic findings would lead one to think that such was the origin of the trouble. However, a positive diagnosis of syphilis could not have been made in spite of the endarteritis obliterans in the walls of the tubes, certainly not a common condition except in the presence of syphilis. A gross examination of the segment of rectum removed showed a normal mucosa, which was confirmed by the subsequent microscopic examination. This shows that the disease started in and was confined to the deeper layers, hence it could not have had its origin in chancroid, gonorrhea or trauma with ulceration. It corresponds with the descriptions of Fournier's "anorectal syphiloma." The microscopic findings of the arteries and veins correspond closely to those described by Rieder. The veins and lymphatics were the vessels affected, and the arteries were almost normal. The use of Weigert's stain brought out obliterated veins and lymphatics in the sclerosed portions of the tissue.

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Orexin in Persistent Vomiting of Pregnancy.

When instead of, or in addition to, the characteristic morning sickness, which does not affect the appetite or digestion later in the day, there is persistent rejection of food, impairing *the general nutrition and threatening to exhaust the patient's* strength, orexin in 5 grains after each meal is recommended by Dr. F. Hermanni (*Therap. Monats.*), who reports nine cases so treated with great success, the vomiting being quickly relieved, and the appetite returning mostly within a few days.—*The British Physician.*

ACUTE SUPPURATIVE ARTHRITIS OF CHILDREN.*

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I wish to call attention to the acute inflammation of joints, variously described under the titles "Acute Suppurative Arthritis of Infants," "Epiphysitis" and "Acute Ostitis of Growing Bone." I chose this subject because these cases are not generally understood, and many joints and lives are sacrificed on the altar of our ignorance.

These inflammations occur, as a rule, either as complications or sequels of other diseases, and may begin either as a synovitis, an epiphysitis, or an osteomyelitis. The majority of cases begin as an osteomyelitis. When accompanying the exanthemata, diphtheria or typhoid, they are usually due to a streptococcus infection. Cases complicating pneumonia have been reported in which the diplococcus was the cause. The joints most commonly affected, in the order of their frequency, are the hip, knee, shoulder and elbow.

In the synovial variety the symptoms are as a rule comparatively mild. There is local heat, swelling and tenderness, with a temperature of from 101 to 102 F. When the joint is quiet, the pain may not be severe, but the slightest motion will cause severe pain. When it occurs as a complication of some fever, the diagnosis is comparatively easy, but when it comes as a sequel or without known cause, it may be difficult. In the latter instance the febrile condition accompanying the joint inflammation is frequently mistaken for an essential fever.

When a decided rise of temperature or a sudden attack of pain occurs in a child suffering from, or recently recovered from, any of the above-mentioned diseases, all of its joints should be carefully examined. This precaution is especially indicated when the child is too young to call attention to the seat of its pain.

The most common error in this as in all other joint inflammations is to make a diagnosis of rheumatism. The latter does not remain in any one joint to the exclusion of others for any length of time, and it is not a suppurative affection.

Suppurative synovitis as a complication or sequel may be polyarticular. I have at the present time a patient who had suppuration of one elbow and of the sacro-iliac synchondrosis, as a sequel of typhoid, but it is not to this very grave form of disease, formerly known as pyemia, that I wish to call attention.

Suppurative arthritis may be confounded with the bone affection of infantile scorbutus, but in the latter careful examination will demonstrate that the soreness is in the shaft of the bone. When in doubt as to the character of the contents of a swollen joint, one should draw off a small amount with an aseptic hypodermic needle. When this disease is recognized and promptly treated, the prognosis is good, but when neglected, the joint surfaces are destroyed and the patient's life endangered. When the diagnosis is thoroughly established, the only treatment to be considered is free incision and drainage. The following is a typical case of suppurative synovitis:

In January, 1895, Dr. Disen, of Minneapolis, referred to me a child 4 years old, who had recently recovered from an attack of measles, and was then suffering from an acute inflammation of the left knee-joint. The child was suffering some pain constantly and very great pain on motion. The swelling extended up and down beyond the limits of the joint, but was most marked at the joint. This diffuse swelling is quite characteristic of the streptococcus infection. There was marked local tenderness and a temperature of 102 F. The color over most of the limb was normal, but at a point on each side of the patella there was a dull, red spot. The joint was flexed and the patient kept the limb with its outer side resting on a pillow.

The only difficulty was to differentiate between a suppurative synovitis and an osteomyelitis. I based my diagnosis of synovitis on the facts that the beginning was rather subacute, the temperature comparatively low, and that the swelling began in the joint as soon as the child complained.

A free incision was made on each side of the patella and rubber drainage-tubes were introduced, and notwithstanding the fact that the joint seemed completely disorganized, the child made a prompt recovery, with perfect motion in the joint.

The openings in these cases should always be free. It is a mistake to fill them with gauze without drainage-tubes, because gauze will not drain pus. It is always wise to explore these joints with a finger, for fear the original trouble may have been an osteomyelitis, as in that case more operating would be necessary. Irrigation with a warm normal salt solution is the best means of cleansing the joint. The dressing should be a large moist one, and should be changed frequently.

Prominent writers on joint diseases, as Macnamara and Howard Marsh, whose writings were published in the eighties, gave extended descriptions of epiphysitis as a disease of frequent occurrence in childhood. More recent writers, however, have demonstrated that while occasional undisputed cases of acute epiphysitis or epiphyseal osteomyelitis do occur, the vast majority of these cases are osteomyelitis beginning in the diaphysis just outside of the epiphyseal line. In these young patients the epiphyseal cartilage is very tender and may easily be perforated, but in the hip, the capsule of the joint extends beyond the cartilage, so that a perforation of the diaphysis close to the cartilage allows the escape of pus into the joint. When the disease does begin in the epiphysis it extends quickly to the joint, so that the joint symptoms soon overshadow the bone symptoms. It is well to remember, in this connection, that it is quite possible to have a sympathetic, catarrhal inflammation of a joint accompanying an osteomyelitis of the shaft, for what would be the only proper treatment for a suppurating joint would in this instance be a grave mistake.

Of these inflammations beginning as an osteomyelitis there are two well-marked varieties; one in which the symptoms are comparatively mild and which under proper treatment makes a complete recovery; and another in which the symptoms are those of an acute osteomyelitis with added acute joint symptoms, which, unless promptly and vigorously treated, results in more or less permanent injury to the joint. The latter variety may cause ankylosis, or there may be shortening and loose-jointedness from separation of the epiphysis. Between these two extremes are many grades of the disease, so that it is not always easy to classify a given case; my personal experience, however, teaches me that the prognosis after a timely operation is better than the findings would seem to justify.

In the mild variety the pain is not very severe, the temperature is not very high and the progress of the disease is comparatively slow. Swelling comes on grad-

*Read before the Western Surgical and Gynecological Association, Des Moines, Iowa, Dec. 27 and 28, 1899.

ually, and the little patient refuses to use the joint. There is local heat and tenderness. The patient loses appetite and flesh. This type occurs most frequently in the hip-joint, and is unaccompanied by redness. The skin is white and the blue veins may become quite prominent. I have found it sometimes difficult or impossible to differentiate this disease from a rapidly growing sarcoma, until I had used the exploring syringe. This disease has very commonly been mistaken for tuberculosis, and has sometimes been pronounced typhoid. The prognosis in this class of cases is good when the disease is recognized and promptly treated, but when neglected, the joint is destroyed and there is more or less destruction of bone, which may cause shortening. The only treatment is free incision and drainage. The following is a typical case of the kind:

May 2, 1898, I was called by Dr. Benjamin of Minneapolis, to see H., aged 15 months, who at that time was comparatively free from pain when quiet, but suffered greatly when the left thigh was moved. The thigh was slightly flexed, was white and swollen, with enlarged veins over the surface. There was local heat and tenderness. The child was pale and emaciated, and lay perfectly quiet, making no effort to move the limb. At this time the temperature was about 100 F. The history given by the Doctor was that the child had been perfectly healthy until March 29, when he was called and found it with a temperature of 103 F., and a tympanitic abdomen. It was crying from pain which was seemingly in the abdomen. The temperature soon dropped to about 100 F. The child lay quiet but suffered when moved. Between two and three weeks after he was called, the left thigh was found to be flexed and somewhat swollen. The symptoms continued about the same until May 2, when I was called. We made a diagnosis of suppurative arthritis of the hip, but the thigh so closely resembled a rapidly growing sarcoma that it was deemed wise to use an exploring needle, which confirmed our diagnosis.

On May 14 the joint was opened and a large amount of pus evacuated. A drainage-tube was introduced and the child began to improve at once, and in six weeks was perfectly well. Examination on Dec 19, 1898, proved the child to be perfectly well, with free movement of the joint and no shortening. We have no knowledge as to the cause of the inflammation in this case.

The second variety begins as an osteomyelitis and quickly extends to the joint. The onset is usually quite sudden. There is often a chill and sometimes repeated ones followed by a temperature of 103 or 104 F. The pain is usually very severe and the whole limb is helpless. There is local heat, and tenderness and swelling soon follow, although this is not one of the early symptoms.

When the disease is in the hip, the swelling is not marked, and in a fleshy child may not be noticeable. At an early age, when the disease begins near any joint but the hip, local tenderness and sometimes swelling can be made out near but not in the joint. When it begins near the hip-joint this is not practical, owing to the distance from the surfaces, of the parts involved.

Those of us who have been in the profession for fifteen years or more were taught that these were cases of acute suppurative periostitis, and the result was that our methods of treatment were incomplete and disappointing. We know now that primary suppurative periostitis is very rare, if it ever exists, and we also know that the stripping of periosteum from a portion of the bone does not cause necrosis, but that necrosis is due to an inflammation beginning in the bone marrow, and that this inflammation is always suppurative.

We all understand the necessity of early diagnosis in all cases of osteomyelitis in order that we may promptly make an opening into the medullary cavity and thus stop the ravages of the disease, but the practical point I wish to make is that in infants and young children there is, owing to the anatomic peculiarities already mentioned, the added danger of an early invasion of the neighboring joint. By timely diagnosis and heroic treatment this joint invasion may be prevented. In all joints save the hip, the diagnosis and treatment are comparatively easy, but in the hip both diagnosis and treatment are more difficult.

When the disease is located in the lower end of the femur, there should be an early diagnosis and an opening promptly made into the center of the bone. I have never been content with drill-holes, but have always cut a window in the bone shaft, and have never had occasion to regret it. When the disease is located in the upper end of the femur, Macnamara has recommended and practiced drilling out the center of the neck through the trochanter, and reports some satisfactory results. I have never been fortunate enough to see one of these hip cases until after the joint has been involved, and have therefore had no occasion to resort to the drill, but have laid the joint wide open. I know of no instance in which free incision and drainage are followed by more satisfactory results than in these cases. Under this heroic treatment joints can be saved that are seemingly completely destroyed.

I have found that the easiest way to enter a hip-joint is from the front, through the opening recommended by Bradford in the operation for congenital dislocation of the hip. Theoretically this route is objectionable, because the pus must flow upward to get out, but practically it is perfectly satisfactory.

When called to one of these cases in which there is evidently an osteomyelitis, and in which there is also swelling of the joint, the surgeon should first aspirate the joint to ascertain whether there is a simple sympathetic or a suppurative synovitis. If serum is found in the joint, it will only be necessary to operate on the bone. If, however, pus is found in the joint, it must be opened and drained at the same time that the bone is operated on.

In the hip-joint, when the exact seat of the disease in the bone can not be located, it is usually quite safe to drain the joint, depending on the bone to drain itself through the joint. Unfortunately in these cases the epiphysis is often found separated.

I have met with several cases in which there had evidently been an acute suppurative inflammation of the hip-joint, which had opened itself, resulting in some cases in complete cure, while in others the sinuses remained open on account of necrosed bone or a separated epiphysis.

The following will illustrate this class of cases. A boy, 7 years old, was brought from the country to Asbury Hospital, Minneapolis, and was referred to me by Dr. Eitel. He was walking on crutches and was believed, by the friends and doctors at home, to be suffering from tuberculosis of the hip. The thigh was flexed and on motion crepitus could be detected. He was quite spare and in evident poor health, but there was no atrophy of the thigh. We learned that about six months before he came to the hospital he was taken

suddenly with severe pain in the hip and high fever, which at first were thought to be due to rheumatism and later to hip-joint disease. He continued with more or less fever and pain until he came to the city. I made a diagnosis of non-tubercular inflammation of the hip with separation of the epiphysis, and advised operation, which was readily accepted by the parents. On opening the joint I found the epiphysis separated and acting as a foreign body. It was removed and the joint thoroughly cleansed out. The boy began to improve at once, and in six weeks his wound was healed and he was able to stand on the limb. In this case there was a history of a traumatism, but it was not altogether satisfactory, so the cause may be said to be unknown.

The last case I shall report is that of baby O'Keefe, aged 16 months, a patient of Dr. Sweetser of Minneapolis, to whom I am indebted for the history.

On July 11, 1898, the child retired in perfect health, but cried the next morning when he put weight on his left leg. He crawled about that day and stood by a chair, but was too lame to walk. On this day he was examined by Dr. Sweetser, who found a normal temperature and pulse, no changed appearance of the hip, but slight flexion and tenderness. He had been walking for three weeks, had always been healthy, partly breast fed and partly on sterilized milk, and had had no intestinal trouble, no scurvy and has a good family history. He had measles the February previous, and a history of slight injury a few days before. Rest in bed was prescribed. July 16 he was worse, with some fulness about the hip and obliteration of the gluteal fold; temperature 102 F. July 17 he moved the leg with less pain; temperature 103 F. The next day the temperature was 100 F. The child was kept in bed, with an ice-bag on the hip; there was pain on motion. For the next month he continued about the same, with temperature fluctuating between 101 and 105. Toward the last he was very restless, perspired profusely and lost flesh rapidly.

On August 19, five weeks after the onset of the disease, I first saw the patient, in consultation, and we made a diagnosis of acute suppurative arthritis of the hip, and confirmed the diagnosis by removing pus with an exploring syringe. The pus was sterile under culture and contained no tubercle bacilli. The joint was drained through the anterior incision. The patient began to improve immediately, and on the third day the temperature became normal. In three weeks the wound was healed and the patient perfectly well, with motion in the joint perfect in every direction; the patient creeping, standing and making efforts to walk; no apparent shortening.

On December 15, five months after the attack and about four after the operation, I examined the child and found motion perfect in every direction, but with about half an inch shortening. While no necrosed bone could be found at the time of operation it is evident that there was either actual destruction of bone or of the growth center. If the shortening increases with the growth of the child, this will be conclusive evidence of the correctness of the latter supposition.

Traction of the Tongue in Hiccough.

This method of arresting uncontrollable hiccough, by continuous traction of the tongue for one to two minutes, has been mentioned casually before in THE JOURNAL. Noir establishes it on a scientific basis in a recent communication to the *Progrès Méd.*, in which he cites observations and states that he has never known it to fail.

A PRELIMINARY INVESTIGATION OF THE THEORY OF THE INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

BY ALBERT WOLDERT, M.D.
PHILADELPHIA.

The inoculation theory of malarial fever through the agency of mosquitoes is not a new one. It is said to have been mentioned by Roman writers about the time of the Christian era. Linne[1] and Sir Henry Holland viewed the transmission of malarial fever through the bite of the mosquito favorably. In 1807 Crawford[1] published a paper on "the Mosquital Origin of Malarial Fever," and King[2], in 1883, one on the same subject. It, however, remained for Patrick Manson to lay the foundation on which Ronald Ross has raised the superstructure of so many facts in connection with this important question. Battista Grassi probably formulated the axiom, *laddove c'è malaria ci sono zanzave*—where there is malaria, there are mosquitoes. Manson, after a long series of deductions, finally arrived at the conclusion that the mosquito acted as the intermediary host in the propagation of the malarial parasite, and published his most convincing paper on the subject in 1894. In the Goulstonian Lectures delivered in 1896 he further explained his convictions in regard to this theory. These publications of Manson influenced Ross to carry on the investigations which culminated in the present work now transpiring in various parts of the world. After Ross came Grassi, Bignami, Bastianelli, Celli, Marchiafava, and Dionisi of Italy, and later came Koch of Germany. The observations of Ross have been concurred in by Koch, Kossel, Nuttall, and Pfeiffer of Germany, by Laveran and Metchnikoff of France.

REASONS URGED AGAINST THE ACCEPTANCE OF THE THEORY.

Objections to the theory are many. One is that the entire subject is too new. Most men will probably agree that it is not the usual way in which infectious diseases are conveyed to man, and from one person to another. Again, it may be urged that the theory is against experience on this question; that only a few species of mosquitoes are capable of inoculating the disease; that observers, through their zeal, have mistaken artifacts for other than the spores of the malarial parasite; and lastly, one may ask, why should the malarial parasite choose the mosquito to act as the intermediary host in the perpetuation of its species? It is not the purpose of this paper to attempt to answer these objections. "Good reasons must perforce give place to better."

NATURAL ORDER OF MALARIAL PARASITES.

The natural order to which all recognized forms of malarial parasites belong, whether in man or birds, is to the order of *Gymnosporidia*, class *Sporozoa*.

The foundation for the theory of the inoculation of malarial fever in the case of man has been built upon the experiments with bird-malaria—*Proteosoma* (Grassi), and *Halteridium* (Labbé).

HOW THE SPORES OF PROTEOSOMA ARE SUPPOSED TO BECOME STORED UP IN THE BODY OF THE MOSQUITO.

According to the theory of Manson, the first stage necessary for the propagation of the malarial parasite in the system of the mosquito is the development of flagellated bodies, which in turn become fertilized, after which they become more motile and penetrate the stom-

1. Baltimore Observer.
2. Popular Science Monthly.

ach and intestinal walls of the insect. Lodging in the muscular layer of these organs, a coccidium (zygote) or cyst is developed in which develop germinal rods or spores. After the lapse of seven or eight days it is believed this coccidium ruptures, setting free the spores into the body-cavity of the mosquito, thus entering the blood, by which they are conveyed to the veneno-salivary glands, where they become stored up to be inoculated into man at the moment the insect bites. The veneno-salivary—or venomo-salivary—glands are two in number, and located one on each side of the insect's neck. Each consists of three lobes, the latter of which communicates with the proboscis or beak by means of a duct which bifurcates in front of the esophagus in the shape of the letter Y. Two of the lobes of each gland are supposed to be salivary in function, while the central lobe is believed to pour out a secretion which has the power to cause constriction of the blood-vessels, or which has the power of coagulating albuminous substances. These secretions are ejected at the time the insect bites. It is known that the bite of this insect does not give rise to hemorrhage which is believed to be due to the properties of the secretions from these glands.

DEVELOPMENT OF THE GERMINAL RODS OR SPORES OF HALTERIDIUM AND PROTEOSOMA.

MacCallum, experimenting on birds whose blood contained *Halteridium,* observed that the parasites escaped from the infected corpuscles. After the lapse of a certain period they assumed a spherical form, and some of them emitted flagellæ which became detached and, after swimming about for a time, subsequently approached other spheres, which they entered, thus causing impregnation. Watching one of these impregnated bodies, he found that renewed vigor was manifested by very active motion and the power to penetrate both white and red blood-corpuscles. This same process occurs in the case of *Proteosoma.* It is believed that this impregnated body has the power of penetrating tissues and, after being formed in the stomach of the mosquito, finally penetrates its walls, and afterward forms the coccidium with its contained spores—germinal rods or germinal threads.

With certain modifications analogous processes are supposed to occur in the body of the mosquito, in the case of the human malarial parasite, to that observed in *Halteridium* and *Proteosoma.*

BIRD-MALARIA.

Ross has studied both species of bird-malaria, the results of which have been recorded by Manson as follows: The characteristics of *Halteridium* are that it extends along the nucleus of the red blood-cell and forms sporulating appendages at the end of this halter-shape of jugum. On the contrary, the *Proteosoma* sporulates in a different fashion. It is a more concentrated parasite, so to speak, occupying rather the center of the oval red blood-corpuscle, and, in order to obtain room, displaces the nucleus latterly. Both species of these parasites resemble the human malarial parasite in their structure. They are both intracorpuscular; they are both composed of pale protoplasm carrying a large number of grains of black pigment; they also sporulate and form flagellated bodies, so that in every way they seem strictly analogous and closely allied to the human malarial parasite. Bird-malaria in the tropics is prevalent in the warm season. Out of 111 wild sparrows caught in Calcutta, Ross found that 15 or 13 per cent. were suffering from *Proteosoma.* In most of these, the parasites were few in number and, excluding two of them, an average of only one parasite was found in each microscopic field.

THE FLAGELLATED MALARIAL PARASITE.

It was formerly held by some observers that the flagellated body represented a degenerated form of plasmodium, but through the patient investigations of Dock, MacCallum, and Ross it would appear that such does not hold good. In a letter to Manson, Ross tells of the following experience while examining the blood from a patient suffering from malarial fever: "I said I was going to watch free flagellæ. I found one in my first specimen and watched it continually for three hours. So much for the statement that free flagella soon become quiescent and vanish in the serum. At first it wriggled about for twenty minutes like a trypanosoma so that I could hardly follow it. Then it brought up against a phagocyte and remained there so long that I thought the phagocyte had seized it. Not so; it was neither killed nor sucked in, but was actively engaged in attacking the phagocyte. The flagellum kept at this for about a quarter of an hour and then wriggled away across two fields and in the direction of another phagocyte. Into this second phagocyte it pushed in several places with one of its ends and the phagocyte seemed to rear up and try in vain to get round and envelop the flagellum. At last the phagocyte seemed to give up the struggle and flatten out itself against an air bubble, the flagellum still attacking it. After fifty minutes and when the flagellum seemed to be getting exhausted a very curious thing happened. A third phagocyte approached coming rapidly across the field; but it had no sooner got near when the flagellum left its fallen foe and attacked a new one, holding on to it and shaking like a snake on a dog. In one minute the third phagocyte turned sharp round and quickly made off; it went right across a whole field the flagellum holding on. This continued for five minutes, after which the flagellum left the phagocyte. By this time the flagellum had become much more visible and had a large swelling in the middle. I watched it steadily as its movements became gradually slower. It was certainly able to attach itself to the cover glass (as shown by touching this with a pen) by either end, and even perhaps by the swelling. At last this swelling moved to one end nearly, and became very large and distinct until after three hours the creature evidently died; at any rate it curled up and ceased to move."

After penetrating the walls of the stomach and intestine of the mosquito, and after the stomach and intestine of the mosquito, and after the formation of the coccidium and germinal rods, this insect is supposed to act as the intermediary host of the malarial parasite in the same way as it does in the case of *Filaria Nocturna, Filaria Medinensis, Cyclops quadricornis;* and in the same way as do swine in tenia solium, and trichina spiralis. And it is further held that the malarial parasite is capable of being inoculated into man by the mosquito in the same way as is Texas fever into cattle by the bite of the tick—*Boophilus bovis*—and the tsetse-fly disease by the bite of the tsetse-fly—*Glossina morsitans*

BIRDS INFECTED WITH PROTEOSOMA THROUGH THE AGENCY OF MOSQUITOES.

Ross found that mosquitoes fed on birds infected with *Proteosoma* contained enormous numbers of germinal rods within the veneno-salivary glands. He subsequently allowed these to feed on birds in which there were no parasites of *Proteosoma,* with the result that they became infected with the disease in from five to eight days. Ross, experimenting further with *Proteosoma,* found

that by feeding gray mosquitoes on sparrows, larks and crows containing this parasite, he was able to recover the pigmented bodies characteristic of this organism, within the tissues of the mosquito. Of 245 gray mosquitoes fed on sparrows whose blood contained the *Proteosoma,* 178, or 72 per cent., showed the pigmented bodies, while in 249 fed on the blood of sparrows devoid of this parasite, *not one* showed the pigmented cells in the walls of its stomach. Out of 28 originally healthy sparrows subjected to the bites of gray mosquitoes—previously fed on diseased sparrows—22, or 79 per cent., became infected within from five to eight days. Out of 22 birds experimented on by Daniels in the same manner, 54 per cent. became infected. Ross collected the larvæ of mosquitoes and kept them until they became adults, when he allowed ten of them to bite birds in which the *Proteosoma* were very abundant, and in dissecting out the stomach of the mosquito he found an average of 100 pigmented cells. Ten of these mosquitoes were next fed on birds in which the *Proteosoma* was only of a moderate quantity, and only an average of 29 pigmented cells were found; while of ten fed on birds containing no *Proteosoma, no* pigmented cells were found.

MAN INFECTED WITH MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

Reasoning by analogy of what had been found in the case of *bird-malaria,* Amico Bignami, of the Institute of Pathological Anatomy of Rome, under the direction and supervision of Battista Grassi, records the following experiments made on man: "Thus was begun, on September 26, 1898, the third experiment. S——, who was by this time completely recovered from the indisposition following upon the preceding experiment, again consented to be the subject. I could not find any one else intelligent enough to understand the importance of the test and so self-denying as to submit to it. Along with S—— there slept in the mosquito-room another patient with nerve disease who, like S——, had never had malaria, nor as far as we were aware had never been exposed to the infection. And for a couple of nights a third patient, also a nerve case, slept in the room, but with this man the experiment was not continued. On October 3, I was obliged, for want of more material, to suspend the experiment. On the 10th to the 14th, there was an abundant supply of mosquitoes. On the 10th, S—— complained of headache. On the evening of the 16th, at 6 p. m., his temperature was 37 C., and on the following day he felt better. From the 17th to the 21st, there were but few mosquitoes left in the room; nevertheless both patients showed evidences of having been bitten. From the 19th to the 23d, no fresh mosquitoes were brought; on the 23d, there was a new but small supply. From this day onward until the experiment came to an end there were but very few mosquitoes in the room. The patients were, however, certainly bitten. During the last days of October S—— complained of malaise and headache. On October 31, his temperature showed a slight elevation to 37.2 C. (99 F.). On November 1, at about 3 p. m., he was seized with shivering which lasted until 5 p. m., the temperature rising rapidly to 39 C. (102.2 F.), between 9 p. m. and 10 p. m., when he again experienced a sense of chilliness. The fever continued all night. On the morning of November 2, his temperature was lower and during the night remained at 39 C. (102.2 F.), and on the morning of the 4th it rose to 40.4 C. (104.7 F.), the patient being in great agitation and suffering. A careful examination of the blood made on November 2, gave a negative result; in spite of the most diligent search not a parasite was found. On the morning of November 3, I found young ameboid parasites, few in number, mobile or discoid and without pigment. These went on increasing in number during the course of the day and in the afternoon were present in considerable quantity, some of them presenting pigmentation at the edges, the pigment being in fine granules. They stained with Romanowsky's method and with eosin and hematoxylin. The parasites belonged to the estivo-autumnal variety. The room in which the experiment was carried out forms one of the annexes of the San Carlo ward where none of the physicians have ever known an autochthonous case of malarial fever to occur, nor has malarial fever ever been known to originate in any of the neighboring towns. This fever then, identical with those prevalent at Maccarese, was contracted by S—— in surroundings in which there was neither water nor the soil of Maccarese (the mosquitoes having been sent from the latter place), but only its mosquitoes. Hence we are forced to the conclusion that the fever was actually inoculated by these mosquitoes. The varieties of mosquitoes experimented with were the *Culex penicillaris,* the *Culex malaria* (so-called) and *Anopheles claviger,* but of this last species only a few individuals were sent and only on one occasion during the course of the experiment."

At the present time it is claimed that the *Anopheles claviger* is the species of mosquito most concerned in the propagation of the malarial parasite. Grassi claims that he first discovered that the *Anopheles superpictus* could carry malaria, and was first to claim that *all* species of *Anopheles* could propagate it.

It has been said that the mosquito does not harbor the malarial parasite throughout the entire year, and that from January to May the forms are absent from this insect. Just how long the insect may live under favorable circumstances has not been definitely proven. In cold climates, should they find a suitable place, such as cellars or barns, they probably survive the winter. Many of the adult females die soon after depositing their eggs, and their bodies are readily devoured by the young larvæ, which are said to possess ravenous appetites. Ross has found the alimentary tract of the larvæ stuffed with the scales, fragments, limbs, and other remains of the parental insect. In this way it is supposed the malarial parasite may pass from one generation of mosquito to the next.

THE COCCIDIA OF PROTEOSOMA.

The youngest coccidia (or xygotes) of *Proteosoma* which have been discovered are those seen on the second day. At this time they have been described as being small oval bodies about 8 microns in the long diameter, and containing numerous fine pigment granules. They grow rapidly until the sixth day, and when they may attain the diameter of 60 or 70 microns, and on the seventh day are said to be mature zygotes. About the second or third day a faint capsule develops around the parasites, in which may be seen pigment granules and vacuoles. The pigment granules are often arranged concentrically as seen in diatoms. On the seventh or eighth day the coccidia are seen to contain 1, a large number of delicate thread-like, spindle-shaped reproductive bodies—germinal threads, germinal rods, sporozoites, sporozoids, spores, zygotoblasts; 2, a smaller number of large black sausage-shaped bodies, the nature of which has not been determined. The germinal threads are said to be from 12 to 16 microns in length, and about 1 micron in width, slightly twisted, and in the third dimension are flattened. The middle portion of the germinal thread

contains vacuoles and chromatin granules, and is much wider than either extremity, which is pointed.

The large black sausage-shaped bodies when mature are from 16 to 20 microns or more in length and from 2 to 3 microns in thickness. They have been described as having a cylindric shape, curved, sigmoid, or variously twisted. Ross has found germinal rods together with these black bodies contained within the same coccidium. They have been fed by the mouth, to sparrows, without giving rise to *Proteosoma*. Ross is of the opinion that they may be able to infect the larvæ of the mosquito at the period of maturation.

WHERE THE COCCIDIUM AND GERMINAL THREADS OF PROTEOSOMA ARE FOUND IN THE TISSUES OF THE MOSQUITO.

The coccidium (zygote) of the *Proteosoma* has been most frequently found in the stomach and intestinal walls of the mosquito, while the germinal rods are for the most part found stored up in the venomo-salivary glands and ducts. But the latter have also been found dispersed throughout the insect's body. Ross thus describes the tissues of the stomach of the mosquito: "If you examine a mosquito's stomach with a microscope (1-12 oil-immersion lens), you will find the wall is made up of several layers. The outside layer is composed of ramifications of the air vessels of this insect. Beneath this you will find a structureless sort of membrane which does not stain easily; and below this again and forming the lining membrane, the mucous surface, so to speak, of the mosquito's stomach, what might be called the epithelial layer, composed of several strata of cells. The pigmented cells of *Proteosoma* do not occur as might be supposed among the soft epithelial cells lining the inner surface of the stomach, but they lie in the outer homogeneous layer covering this or between the meshes of the muscular fibers." On dissecting out the insect's stomach, he found that by exercising only slight pressure on the cover-slip the coccidium ruptured, setting free myriads of germinal threads. The germinal rods have been found in greatest abundance in the venomo-salivary glands. Here they lie scattered both within and without the cells, while the salivary duct has been found to contain myriads of them. As a rule more sporozoites are found in one gland than in the other. They have also been found in the blood, muscular tissue, and juices of the head and thorax of the mosquito. The black bodies have been found in the muscular and connective tissue of this insect (?).

OTHER PARASITES FOUND IN THE BODY OF THE MOSQUITO.

Besides the coccidium, bodies of *Proteosoma*, other parasites have been found in the body of the mosquito, e. g., a nematode, a fungus, a gregarine, a sarcosporidium (?); a coccidium (?) and certain swarm spores, besides one or two doubtfully parasitic forms; yet Ross has been unable to trace any of these parasites to the ingestion of malarial blood, nor has he observed special protozoa in the evacuation due to such ingestion.

DISCOVERY OF PIGMENTED CELLS IN MOSQUITOES WHICH HAVE BEEN FED ON MEN SUFFERING FROM MALARIAL FEVER.

The changes which have been found to occur in the system of the mosquito in avian malaria are, with certain modifications, supposed to also occur in the case of human malaria. Many theories remain unproved. On Aug. 16, 1897, Ronald Ross allowed eight mosquitoes—genus *Anopheles*—to feed on a patient whose blood contained crescent malarial parasites. Four of them were killed at once, for the purpose of studying flagellated bodies. Of the remainder, two were examined on the 18th and 20th days respectively, without anything being noted. The seventh insect was killed on the 20th, four days after having been fed. In the upper half of the stomach, lying among or within the cells, a dozen round or oval—12 to 16 microns in diameter—pigmented cells were found. The outline was said to have been sharp and colorless, without nucleus, and the contents were filled with vacuoles. Each cell contained from ten to twenty black or dark pigment granules identical in appearance with the well-known and characteristic pigment of the malarial parasites—large quartans and crescents—derived spheres. These cells were devoid of contractile, intracellular or ameboid movement. The pigment granules were not scattered throughout the cell body, but arranged in lines transversely or peripherally, or in small circles round the center. They did not become more refractive on change of focus. In some cases the pigment granules showed a rapid oscillation, but did not change their relative position in the field. "Owing to their blackness, so different from the bluish yellow and green granules and debris found in and about the neighboring cells, they arrested the eye at once. Upon being irrigated with a 40 per cent. solution of formalin, the bodies became more visible than before, as compared with the stomach cells." On the fifth day other similar cells were found nearer the esophageal end of the stomach and were distinctly larger and more substantial than on the fourth day, and had a thicker outline.

Manson states that Bignami and his co-workers found that two days after the estivo-autumnal blood rich in crescentic bodies had been taken into the stomach of the mosquito, the coccidium forms had found their way into the stomach and intestinal wall, and lay encapsulated between the muscle fibers. On the sixth day they had increased enormously in size, and projected into the lumen of the alimentary canal. Very gentle pressure at this stage sufficed to rupture the cyst and set free the germinal rods or spores.

A correspondent of the *British Medical Journal*, of recent date, writes that during the fever among the West Indian troops at the suburb of the Wilberforce barracks, mosquitoes are caught and examined daily, and found to belong to the genus *Anopheles*. All varieties of fever are said to prevail there, and it is presumed that the genus is capable of giving rise to all kinds of malarial fever. He states that the parasites have been found in all stages, namely, the young zygotes and the mature ones, and the zygotoblasts or germinal threads have been found in the veneno-salivary glands of this insect. The quartan and tertian can be recognized by their contained pigment, that of quartan being of a dark-brown color and comparatively scanty, that of tertian being copious and fine and of a light-brown color. The youngest tertian zygotes are said to resemble the mature gametocytes, non-sporulating forms found in the human blood itself. "They differ from those of *Hemameba relicta 'Proteosoma Grassii'* by being considerably shorter, thicker, and less twisted and bent, and lie in bundles, and not irregularly placed in the gland." In one insect in which the stomach showed numerous empty capsules, the salivary cells were packed with numerous hosts of zygotoblasts, bundles of which could be seen lying outside the cells, but within the containing capsule of the gland; while other bundles lay within the cells, others again were making their way into the central duct.

The duct itself was said to have been crammed with these bodies lying parallel to its axis. The insects were caught gorged with human blood and kept two or three days until the meal was evacuated; they were then examined and found to contain zygotes of the second and third day, or zygotes corresponding to the time elapsed since the insect was fed, while at the same time older zygotes were found, showing that these had been infected at a previous meal.

It is believed that when the insect bites, not all the germinal threads escape from the venomo-salivary gland, hence any number of persons may become infected by a single mosquito. It is stated by Bignami and Bastianelli that certain differences exist in the arrangement of the sporozoids—germinal threads—in the sporozoon in the different forms of malarial fever. The sporozoids are more regularly arranged in the capsule of the tertian, and from this disposition of the sporozoids they are able to distinguish whether a mosquito is infected with a tertian or estivo-autumnal parasite.

The *zygotes of human malaria are differentiated* from bird-malaria, as has been mentioned, from the fact that in the former they are considerably shorter, thicker, and less twisted and bent, and they lie in bundles and not irregularly placed in the venomo-salivary gland.

NOMENCLATURE OF SEXUAL ELEMENTS OF THE MALARIAL PARASITE.

Before sporulation the elements are spoken of as "gametes," and after fertilization they become the zygotes. "Gameti" forms are sexually-mature forms. Bastianelli and Bignami designate the flagella by the term "microgameti." In the case of the tertian parasite the bodies are divided into two forms, namely: "microgametocytes" or male, and "macrogametocytes" or female forms. The nucleus of the microgametocytes is centrally located, and the chromatin is abundant and in filaments, while in the macrogametocytes the chromatin is scarce and occurs in the form of granules. The flagellated organisms are sometimes spoken of as "spermatoids," while the larger non-flagellated bodies are denominated "ovoids." Fertilization of the elements is believed to occur in the system of the mosquito, while in man it is believed that they remain *sterile*.

On Aug. 27, 1899, Ross sent a telegram from Las Palmas, Africa, to the Liverpool School of Tropical Medicine, announcing that the complete life-cycle of the quartan parasite had been demonstrated on mosquitoes in the same manner as that of tertian and estivo-autumnal fevers. The genus *Anopheles* was used.

(To be Continued.)

SPASMUS NUTANS.*

BY I. A. ABT, M.D.
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Spasmus nutans is a disease which was first described by Romberg[1] and Henoch[2], and which appears in the literature under a variety of names: head-nodding, rotatory and rhythmic spasms. Gyrospasm of the head is a term which Peterson[6] has applied to the rotatory variety of the disease. Two cases of spasmus nutans have come under my observation, which I desire to report.

CASE 1.—B. R., aged 9 months, was sent to the Michael Reese Hospital, Feb. 15, 1898.

Family history: The father is living and well. The mother is a dwarf and has borne five children; two are dead; one is said to have died of pneumonia at the age of 11 months; the other, a male child, died at the age of 7 months, after an operation had been performed on its head for some disease the nature of which was not known to the parents.

Present disease: Five weeks before the child was admitted to the hospital, it fell from a high chair, cried immediately after having fallen, and continued to do so for about ten minutes. After this it resumed its play. On the third day after the injury it began to shake its head fore and back. The movements have continued almost incessantly since. These were sometimes interrupted when the child's attention was attracted, but the nodding very soon began again. The movement ceased during sleep. The movements of the arms and legs were free and co-ordinated, appetite good, bowels regular and sleep normal.

Physical examination: The patient was fairly well nourished, the skin pale and slightly icteric. There were no marks of trauma on the head, and the fontanelle was normal; the pupils were regular and reacted to light; there was no strabismus. After a prolonged observation it was noted that the child had a lateral nystagmus of both eyes. The face presented nothing abnormal. The examination of the pharynx and tongue was negative. The child had nodding movements of the head, which were almost continuous; at times, if it fixed on an object with both eyes, a slight rotatory movement of the head occurred soon followed by the usual nodding. The thorax showed, in its lateral portions, a slight depression. A rosary occurred on the ribs. The extremities showed a slight enlargement of the epiphyses, and plainly indicated the presence of rickets. The examination of the heart and lungs was negative, while the abdomen was protuberant; the abdominal organs presented nothing abnormal. The ophthalmoscopic examination revealed normal fundi.

The child remained in the hospital for six weeks, at the end of which time the movements had entirely disappeared. It was readmitted to the hospital ten days after its discharge, because it was suffering from acute gastro-intestinal catarrh; it recovered from this in a fortnight. During all this time the child did not show any return of the nodding spasms, but reported subsequently, at intervals for a period of six weeks, without any return of its trouble.

CASE 2.—L. B., aged 9 months, was admitted to the Children's Ward of the Michael Reese Hospital, May 5, 1898.

Family history: The father is living, though he is voluntarily separated from his family. The mother is living and well. The patient is her only child.

Previous disease: The mother reported that the child had a purulent discharge from both ears three months ago. The ears were examined while the child was in the hospital, and no indication of an active suppurative process or any perforation of the membrana tympani could be found.

Present disease: Three months ago it was observed that the child made incessant rotatory movements of the head during its waking hours; also that it had nystagmus of both eyes. Arresting the attention sometimes caused a slight cessation of the spasms, though the movements occurred after a momentary pause with apparently new vigor, and proceeded as before. The nystagmus was horizontal in direction; it was continuous during the waking hours, save for momentary interruptions at short intervals, and occurred in both eyes. Bandaging the eyes or excluding the light seemed to stop the movement

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of the head for a short time. There was no strabismus; the ophthalmologic examination made by Dr. C. P. Pinckard showed both fundi normal. The child was unusually bright and active, and of excellent physical development, and remained at the hospital for forty-seven days.

The physical examination, except the points already referred to, was negative.

Treatment: Bromid of soda was administered in 3-gr. doses three times daily, and the child nursed at the mother's breast, and placed under the best possible hygienic conditions. The child improved very much, though at time of its discharge it occasionally showed some rotatory movements of the head and slight nystagmus.

A disease which has been frequently confused with spasmus nutans is eclampsia nutans, or the saalam convulsions described by the older authors. West[3] says that children who are attacked with this disease bend the head and body slightly forward, a movement which is continued with great rapidity, sometimes twenty, fifty, or even a hundred times, and then ceases, but returns once or oftener every twenty-four hours. During the attack the child seems bewildered, but complete consciousness returns as soon as the movement ends. In addition to these attacks, there is a general failure of health and enfeeblement of the mental powers. The tendency of the disease is to pass into confirmed epilepsy. Soltmann[4] and Gerhardt[5], both of whom have written treatises on spasmus nutans, do not separate it from eclampsia nutans. Gerhardt distinguishes two varieties of the nodding disease, a mild and a severe form. The mild, he maintains, is a reflex spasm, and the severe form is due to some variety of meningeal irritation, though he adds that the precise pathologic anatomy is not known. The severe cases terminate in idiocy or epilepsy. The latter variety, it is obvious, is to be classified as cases of eclampsia nutans. In more recent times there has been a tendency to omit the term spasmus nutans from the nomenclature, and to describe the disease under a variety of other names. Thus Caille[12] describes "two cases of nystagmus associated with clonic movements of the head in rachitic babies." Peterson[6] reports five cases under the name of "gyrospasm of the head." Samuel Gee[7] describes the condition as "head-shaking in children," and Holt[8], under the name of "rotatory and nodding spasm of the head." W. B. Hadden[9] refers to the condition as "head-nodding or head-jerking." Dawson Williams[10], in a recent treatise on the "Diseases of Infancy and Childhood," speaks of "clonic spasm of the neck," which may be rotatory or lateral. Spasmus nutans, he erroneously remarks, is sometimes called eclampsia nutans. R. W. Raudnitz[11], in a very exhaustive monograph treating of this subject, retains the name spasmus nutans. This nomenclature has the advantage that it prevents the evercontinuous multiplication of terms to describe one and the same disease, and it also has a historic and clinical value in that it preserves for us a description of the earliest cases of eclampsia nutans with cases of spasmus nutans.

Head movements: The head may move at the rate of 80 or 100 times per minute, though the movements may be as rapid as 120 or 160 times per minute, particularly if the child be excited. The movements consist in oscillations from left to right or right to left. Peterson[6] reported five cases, all of the rotatory variety, and he described them under the name of gyrospasm. Of the 15 cases reported by Raudnitz[11], 5 showed nodding movements, 6 rotatory movements and 2 were of the mixed type, i. e., sometimes the rotatory and other times the nodding movements occurred. In 2 cases no movements of the head were noted. Frequently the first manifestation of the disease is a wryneck, and then this is followed by the head movements or the nystagmus. The onset of the disease in any case is gradual.

Caille[12] observed that the head movements cease when both eyes are bandaged. Raudnitz confirmed this observation in a number of his patients. He also observed that the wry-neck ceased when both eyes were bandaged. He found, in a certain proportion of his cases, that the movement ceased if one eye was bandaged.

The nystagmus: While there are cases of genuine spasmus nutans reported in the literature where nystagmus is said to have been absent, nevertheless recent studies teach that nystagmus is present at some time during the course of every case, though it may disappear before the involuntary head movements have ceased. The nystagmus may be present in one or both eyes. It occurs later than the other symptoms, and disappears, as a rule, before other spasmodic movements, though cases do occur where the nystagmus is the most prominent symptom. In regard to the direction of the oscillations of the eyeballs, we find that various combinations occur. Thus the movements may be horizontal in both eyes, or vertical in both, or the movement may be so arranged that vertical, horizontal and diagonal oscillations occur in the same eye at different times. The movement in one eye may be more marked than in the other, or the nystagmus may be absent in one. Peculiar temporary changes occur in the position of the eyes, adduction of one is frequent, abduction occurs less often. Spasmodic movements of the lids is of frequent occurrence, though excessive secretion of tears is seldom observed. Cases of strabismus have been reported by most observers. The fundus of the eye has been reported as normal.

Etiology: Much speculation has been indulged in as to the cause of this disease. The older authors disposed of the etiology by considering the condition to be of reflex origin; thus Henoch[2] attached great importance to dentition, but we know that the disease occurs commonly before the period of dentition, and also after the temporary teeth have appeared. Derangements of the alimentary canal have been considered the cause. Rickets is so commonly found associated with the disease that it has been rather generally regarded as bearing a causal relation to it. Raudnitz[11] found rickets present in 14 out of his 16 cases. Dickinson[13], Hadden[7] and Caille[12] offer corroborative statements.

Head injury not uncommonly precedes the disease, thus, in 3 of Hadden's cases and 2 of Peterson's, as well as in 1 of my own, the history of traumatism could be obtained. Holt[8] suggests that possibly the disease is a variety of cerebral concussion. B. Sachs[14] says that if the condition be developed in late years, it may be regarded as a habit, but if the movements begun in early infancy are associated with nystagmus, strabismus or idiocy, one need not hesitate to refer them to a cerebral lesion. The region of the cranial nerve nuclei, he says, would most probably be the seat of the trouble, and the lesion we must suppose to be irritative in character. Many facts in the clinical history of these cases would speak against this latter view. The fact that most of these children are vivacious and intelligent, and tend in a comparatively short time to make a spontaneous recovery would cause us to doubt the existence of a central lesion. And, again, nystagmus of central origin is accompanied by a train of other symptoms which have not been observed in the cases of spasmus nutans.

Caille[12] believed that the movements of the head were caused by the effort of visual fixation on the part of the child. Fixation is difficult on account of the nystagmus. To prove this he showed that if the eyes were closed by the application of a bandage, the head movements ceased. Raudnitz also believes that the head movements are due to the failure of the process of visual fixation. He confirms the experiments of Caille by bandaging one or both eyes, whereupon the head movements cease. But he goes a step farther than his predecessor, in that he attempts to explain the origin of the nystagmus. The nystagmus, he thinks, is caused by the residence of these children in dark and dingy dwellings. In two of his cases he was enabled to show that removal of the patients to light rooms caused the cessation of the entire process; he also suggests that the disease tends to relapse during the dark seasons of the year, and that not only are the dwellings dark, but also that the children spend the greater part of their time in their rooms and in bed, and that the facilities for artificial lighting are meager. To corroborate his findings he quotes a case recorded in the literature. A child of 9 months was amused by fastening playthings directly above the cradle; in consequence of this the child looked constantly up, and a vertical nystagmus resulted. The playthings were removed and the nystagmus ceased in about two weeks. Magnus[15] observed a child of 10 weeks who was kept in a dark room lighted by a gas lamp on which the child almost constantly fixed its vision. In a short time the child had nystagmus and blepharospasm. It was removed to a light room and prompt recovery took place. Spasmus nutans and nystagmus do not occur every time a child is kept in a dark room. The same is true of miners, of whom it has been shown that only 4 per cent. become afflicted with nystagmus. We conclude that some internal condition of the organism must be sought for in order that the nystagmus may be explained. Rickets being prevalent in a large proportion of cases, it is reasonable to believe that the disease acts by causing weakness of the eye muscles, and a general fatigue of the entire organism. Or there may be some defect in the visual function, or in the dynamics of the muscular arrangement of the eyes, which will permit a certain proportion of cases to become afflicted with nystagmus if the proper external conditions are present.

Prognosis: Spasmus nutans does not offer any danger to life, nor does it in itself visibly affect the general health; these children are usually bright and active; the disease does not exhaust the patient, and in the majority of cases no other nervous symptoms are present. Relapses are not uncommon. The duration of the disease seems to be three or four months on an average. One of Raudnitz's cases lasted twenty months, and the patient suffered a relapse later; the shortest duration in his series was four weeks. Henoch saw patients who were cured in one and two weeks.

Diagnosis: From what has been said concerning the symptomatology of the disease, it would seem that the diagnosis would present no difficulty, but the greatest confusion has prevailed concerning the diagnosis. As has already been stated, cases are described under the head of spasmus nutans, which are in reality cases of saalam spasm or eclampsia nutans. In these nystagmus does not commonly occur, and they terminate in irregular epileptic attacks and paralytic conditions. These children eventually become feeble-minded, and are to be considered as cases of epilepsy with some special cerebral localization.

Cases of congenital juvenile nystagmus which depend on some lesion of the nervous system or some defect or disease of the visual apparatus should be differentiated from the cases of spasmus nutans. Multiple sclerosis, hereditary ataxia, cerebellar tumors are diseases which may be accompanied by nystagmus, and would present little or no difficulty in diagnosis. Raudnitz has seen a case of tubercular meningitis diagnosed as a case of spasmus nutans, because of the nystagmus and of the convulsive movements of the head and extremities.

Treatment: Cases of uncomplicated spasmus nutans tend to make a spontaneous recovery. The condition of the general health should be ascertained, and tonics should be administered if indicated. If the child is rachitic, antirachitic treatment and diet should be instituted. Bromid of soda, either alone or combined with tincture of belladonna, undoubtedly exercises a favorable influence on the course of the disease. Mills[16] suggests the use of one minim of the fluid extract of conium. In view of the theory that the condition is allied to canine chorea, and in the light of the suggestion of H. C. Wood[11], that quinin has a controlling power over the choreic movements of the dog, Mills suggests that quinin be given in increasing doses to children suffering from this disease.

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ELECTRICITY IN DISEASES OF THE NOSE, THROAT AND EAR.*

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The application of electricity, which has been found so useful in medicine and surgery generally, has not been entirely neglected in the special department of ear, nose and throat diseases, and appliances more or less complete for its application may now be found in the office of every advanced laryngologist and otologist.

The use of electricity in diseases of the nose, throat and ear, not only in the treatment but also in the diagnosis and prognosis, has now become so extensive and varied that the limits of this communication will permit hardly more than a general survey over the field of electrotherapeutic progress. It is hoped, however, that this will not be without its points of interest.

As an illuminating agent, electricity still holds its own in this department, in spite of the Welsbach, acetylene and other lights that have been recommended. The yellowish light of the incandescent lamp does not give the natural coloring to the mucous membrane, as is the case with the Welsbach and other white lights. Our judgment of things in general, however, is always relative and we soon become accustomed to the abnormal

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coloring, and, in fact, do not realize it until we compare it with the appearance presented by the sunlight or the Welsbach burner. For the smaller lamp used in examining the accessory cavities, the incandescent lamp has not been replaced.

The application of electric energy as a cauterizing agent is of the greatest value in rhinology and laryngology. For reducing hypertrophies and destroying tumors, the application of the electrocautery within the nose and throat is admirable. The instruments for applying the caustic effects may be carried, without harm, to the various parts of the nose and throat, and the application, completely under the control of the operator, may be commenced and ended at pleasure. When the chemical cauteries are used, in addition to the danger of applying them to parts for which they are not intended, it is difficult to limit the cauterizing effects, as the chemical combinations, which are started by the application of the chemical agent, continue for some time after the operation and can not always be stopped even by the application of a neutralizing agent. With the electrocautery this is not the case; the action is commenced when the current is admitted, and ceases when the circuit is broken.

The application of galvanism and faradism has not been developed in this department to the extent the importance of the process demands. In view, however, of the greater conservatism which is now manifested, this will probably come into more prominence in the near future. It is certain, however, that the subject will prove a fruitful field for further development.

I do not refer here to the application of galvanism and faradism in the treatment of paralytic and hypokinetic conditions of the muscles of the throat, as its value in this connection has been fully recognized; nor to its use in goiters, and Basedow's disease, in which electrotherapeusis is admitted to be of value. I refer more especially to the use in influencing vascular changes and correcting pathologic conditions in the nose and throat, in which electrotherapeutics is probably of great value, but in which it has been thus far but little used.

While the limits of this communication will not permit me to go into details in this connection, I can not but call attention to the value of galvanism in the treatment of so-called catarrhal affections. Not only is it founded on the most conservative principles, but it has given results which already give evidence of its efficacy and compare favorably with other procedures, this being high praise when we consider that the subject of scientific electrophysics and electrotherapeutics is almost a *terra incognita* to the majority of physicians.

This valuable method of treatment is applicable in what appears at first sight to be opposite conditions. Its stimulating effect in atrophic conditions, such as ozena, is so marked that when properly applied I consider it of more value than all other methods of treatment excepting cupric electrolysis, which, also founded on the application of electricity, adds the germicidal effects of the cupric salts to the stimulating effect of the application.

In congested conditions of the mucous membrane of the nose, which is probably present more frequently than all other pathologic conditions, a mild galvanic application stimulates the circulation by its tonic effects on the vasomotor nerves, and, unlike the effects of the electrocautery, is followed by a return to the normal condition without being dependent on the cicatricial tissue for restoring the normal patulency of the nostril. The principle of the application of galvanism and faradism in paralysis is so similar in this region, to that observed in other parts of the body, that it will be here necessary only to allude to its value in this connection.

Cataphoresis has been used in the treatment of goiter with fairly satisfactory results, although it still leaves much to be desired. It is useful in applying cocain to the ear for its local anesthetic effect. I have for some time also applied it in the treatment of sclerotic conditions of the middle ear, but my cases thus far have not been sufficient to justify my formulating any conclusion as to its therapeutic effects.

Electrolysis has been used in cases of fibroid tumors of the nose and throat, and has been considered by some to be superior to all other methods, as the great disposition to recurrence appears to be diminished in this method. Although but little used, electrolysis is an excellent substitute for the electrocautery in hypertrophies and other conditions for which the latter is used almost exclusively.

Several investigators have experimented in the application of galvanism to the auditory nerve for its diagnostic as well as for its therapeutic effect. The results have been by no means harmonious, although those who have had the greater experience in the application of electrotherapeutics believe it to be of value. The reaction of the acoustic nerve to electric excitation was first investigated in a scientific manner by Brenner, and afterward by Neftel, and more recently Gradenigo has followed up this line of research. This subject, however, is still in an embryonic condition, hence the incompleteness of electrotherapeutic methods in affections involving the auditory nerve or the internal ear. This subject presents a field which has been much neglected, but which will probably reward the intelligent research of men whose scientific training as well as medical knowledge has fitted them for this line of investigation.

Electricity affords a useful form of energy for operating various mechanical appliances used in the treatment of diseases of the nose, throat and ear. This refers especially to vibratory and pneumomassage, which have recently received considerable attention. In the treatment of diseases of the nose, vibratory massage is a useful substitute for the more heroic methods, and electricity has so much facilitated its application that it is now rarely used otherwise, especially on this side of the Atlantic. Pneumomassage is also a useful adjunct to the method of treating certain ear diseases and, while it will probably not fulfill the expectations of its most sanguine advocates, has given undoubted good results when used within its proper limitations. Here also electric energy has facilitated the method and made its application more exact.

Thus far, electricity in the department of the nose, throat and ear diseases has been used only for its simplest effects, such as the cautery and illumination, both of which may be used with little or no knowledge of the principles of electrophysics and electrotherapeutics. Even here, ignorance of the most elementary knowledge of the subject has placed many a physician in an embarrassing position. The methods which require a thorough understanding of the laws of electrophysics have been applied within narrow limits only, and they have even been condemned by physicians whose experience has given them absolutely no opportunity for judging of their value. It is to be hoped that some portion of the longer period of study which is now obligatory in all the advanced medical colleges, will be applied in teaching the principles of electrotherapeutics, so that the

time will soon come when it will be given more attention, and so many physicians will be interested in the subject that it will receive the prominence which it deserves.

BASSINI'S OPERATION FOR RADICAL CURE OF HERNIA; SEVEN SUCCESSFUL CASES.*

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Ever since my association with the United States Navy, and especially my connection with its hospital practice, I have been impressed with the necessity of an operation which should be a radical cure for hernia, it being the opprobrium of both the army and navy medical service that so many enlisted men of both are discharged with this disability without any attempt at cure, due to the fact that the men decline operation —which they are permitted to do—because their attending surgeon could not promise them a cure, himself firmly believing that no operation could be performed which would ensure perfect ability to do duty. This has been the history of most cases in my operative experience of an earlier date, in which the operations of Wood and Wiitzer were the rule, which I early instituted in hospitals under my charge. But with the introduction of the operation of Bassini, a different result has been attained and it would now seem that we have a reliable operation, as free from danger as any that could be instituted, in the majority of cases really a radical cure, and presenting every probability of the enlisted men being returned to duty, in a sound condition, capable of performing any hard work involving strain, without danger of a recurrence of the hernia.

The reasons for performing this operation may be thus enumerated, and the advantages attained are: 1. For the physical betterment of the individual. 2. The saving of a life pension to the Government. 3. The retention in the service of valuable men, and men desirous of continuing in the navy and marine corps. 4. Under proper technic, the small percentage of recurrences—less than 1 per cent.—and trifling danger as regards life, in these otherwise fine physical specimens almost demand the operation as a duty. 5. The repeated drills in aseptic technic and its repeated accomplishment, inspire confidence in hesitating surgeons and will broaden their field of operative work generally. 6. The possibility of strangulation is made very remote.

OPERATIVE TECHNIC AND HISTORY OF CASES.

The usual preparations of dressing, patient, hands, instruments, etc., for aseptic work were taken. The wounds were kept as free from blood as possible by clamping vessels before they were cut. Some modification of Bassini's method was practiced. One or more sutures were introduced above the cord in the deep line. The cord and sac were separated, the latter opened, tied off high up, cut off and the stump put back into the abdomen. When no sac could be demonstrated, the component parts of the cords were identified and no tissue resembling a sac was seen. The conjoined tendon and Poupart's ligament were brought together with interrupted sutures of heavy chromicized catgut, one or two sutures placed above the cord as noted above.

The divided aponeurosis of the external oblique muscle was united over the cord with a continuous line of chromicized catgut sutures, and the skin edges adjusted with plain catgut. No irrigation was employed. The wounds were wiped out with warm normal salt solution. Catharsis was induced on the third day. The patients were kept in bed for three weeks.

During the first quarter of 1898, three cases were submitted to operation, with perfect results save in one case in which atrophy of the testicle occurred, due to acute epididymitis, and in a second, a congenital one, there was great difficulty in separating the sac from the cord, due to the inflammatory adhesions. A fourth case of incomplete indirect inguinal hernia easily reducible was operated on in the third quarter of the same year, and was completely successful, primary union of the incisions occurring on the fifth day. The remaining cases were operated on soon after the occurrence of the rupture in most instances, and were well fitted for the radical cure on that account. In some the hernias were little more than bubonoceles, and the intestine had not been extruded more than two or three times before operation. In some of these cases no sac could be demonstrated after careful searching.

CASE 1.—R. P. B., a landsman, aged 28 years, presented right oblique inguinal hernia which had been down but twice before operation, and said to have occurred as a result of lifting, three months before the operation. His general physique was excellent. The operation, April 19, 1899, was with ether, from which the patient reacted well.

No sac could be found, after a painstaking search. The post-operative condition was normal, the wound united by first intention, and the patient was under observation until June 3, when he was sent to duty, cured.

CASE 2.—A. A., an ordinary seaman, aged 49 years, presented left, incomplete, reducible inguinal hernia, said to have followed a strain induced by slipping on deck while carrying a heavy weight, about seven weeks before operation. His general condition was good. Operation was done on May 19, 1899, under ether, from which he reacted well. The sac present was removed. The post-condition was normal, and the wound united by first intention. The patient was under observation until August 5, when he was sent to duty, cured.

CASES 3 AND 4.—J. B. L., master at arms, 1st class, aged 35 years, presented double bubonocele. The hernias were said to have been first noticed after injuries received in the explosion of the *Maine*, fourteen months prior to operation. His general condition was excellent, and double operation was performed on May 19, 1899, under ether, from which the patient reacted well. The aponeurosis of the external oblique muscle on each side was extremely thin, and the transversalis fascia on each side was bulging forward. No sac could be demonstrated on either side. The post-operative condition was normal, the wounds united by first intention, and the patient was sent to duty, cured, on July 11.

CASE 5.—C. H. G., chief machinist, aged 35 years, presented left oblique inguinal hernia, reducible, said to have been first noticed after two days of "trying work on the feed pumps." His general condition was fair, and operation was performed on June 15, 1899, under ether, from which the patient reacted well. A dense sac was removed. The post-operative condition was normal. The wound united by first intention, and the patient is still in the hospital under observation. The result is perfect, and he is to be sent to duty shortly.

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This paper will also appear in the "Annual Report of the Surgeon-General of the U. S. Navy."

CASES 6 AND 7.—J. S., coxswain, aged 28 years, presented reducible oblique inguinal hernia on both sides. The right was said to have resulted from exertion on a boat davit, eighteen months before operation, and the left appeared one month before. Both have been continuously retained with trusses. His general condition was excellent, and double operation was performed on July 27, 1899. The patient reacted well from the ether. No sac was demonstrated on either side. The post-operative condition was normal, and the wounds united by first intention. He is still under observation, but the result is perfect.

The herniotomies that were recorded in 1898 were performed admirably, by Assistant-Surgeon James R. Whiting, U. S. N., a satisfactory conclusion resulting in each case; all the men having been returned to duty, and no relapse has as yet been reported in any case.

The herniotomies of this year were all performed by Passed Assistant-Surgeon Charles F. Stokes, U. S. N. —my executive surgeon—and I can not too earnestly commend his care and skill, and do honor to his admirable technic and successful result in every case.

VASOMOTOR SYSTEM, AND THE IMPORTANCE OF THE DRUGS WHICH ACT ON IT, IN OPTHALMOLOGY*.

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A study of the pulse and vascular tension is of the utmost importance to the ophthalmologist. Although clinical reports and practice show that while very slight local eye symptoms are noticed, yet how seldom is the pulse recorded, even previous to a cataract operation or during the crises of a glaucoma. It would be well if all oculists would always report the tension of the pulse with the same care, and use the same signs which are used in regard to the eye. The scale would thus run from + 3 to — 3.

Rolling the artery under the fingers with varying pressures, or carrying the skin along longitudinally over the vessel, will decide the tension as well as the inequalities of thickness and density.

Ewart, in a classical work on pulse sensations, has proved that the tension may be best noted by the amount of pressure that will cause the pulse impression to pass from the distal to the proximal side. Although tension is the one attribute of supreme importance in the pulse, there are at least four others that must be noted, frequency, size, the condition of the arterial wall, and the characteristic shape of the pulse curve; whether its access is gradual or sudden, its crest's duration long or short, its subsidence abrupt or slow; note being taken whenever it is dicrotic.

The great vasomotor system is controlled by both augmentor and inhibitory nerves to the heart; as well as the vasoconstrictor and vasodilator nerves to the vessels. The augmentor and vasoconstrictor nerves are largely associated in their course with the sympathetic system.

If it is essential to the oculist to be able to estimate the pulse tension, it is of more importance to be acquainted with the drugs that will control this tension. Inflammation causes a paralysis of the vasoconstrictors, and the area involved is swollen with sluggish and poison-laden blood which, pressing on the nerves, causes pain and further obstruction. The sensible thing is to bleed the patient into his own vessels so that the hyperemic area will be drained of the sluggish fluid. Vasodilators, such as aconite, are used in tonsillitis, and the result is better drainage and less pain in the diseased parts. There is not as much fever, ordinarily, in the inflammations of the eye as in the tonsil, yet the vasodilators, properly handled, will do a surprising amount of good.

There is need of such remedies as bromid of sodium, acting as a vasoconstrictor of the vessels of the eye and brain, and of aconite to dilate the general vascular system; also strychnin, the tonic and regulator for the nervous system, and which prevents any depression that is apt to follow the use of any vasodilator. Such remedies in addition to saline laxatives and the local use of eserin may obviate the necessity of an iridectomy in glaucoma.

Opium and potassium iodid are efficient vasodilators. Dr. George F. Butler says he uses five minims of the deodorized tincture of opium every four hours for months. The dose is so small, he says, that there is no danger of forming a habit. Potassium iodid, so often used in eye diseases with such good result, may be efficient, not that the patient is always syphilitic, but that the contracted vessels are dilated.

Hare gives a list of vascular depressants in the order of their efficiency; amyl nitrite, nitroglycerin, veratrum viride, antimony, aconite, alcohol in large doses and jaborandi.

Haig has shown how the xanthins and uric acid in the blood act as marked vasoconstrictors. This shows how sodium salicylate and mercury favor the dilatation of the vessels under such circumstances and prevent high tension.

Eyes operated on for cataract have the tension suddenly removed from the choroidal and retinal vessels. The wonder is that there are no more cases of disastrous hemorrhages after the operation.

Wide dilation of the trunk vessels, with contraction of the vessels of the brain by the bromids, is the best preventive, of which all such patients should have the benefit. It would be safer if all operations opening the eyeball had this preliminary treatment.

Bartholow states that nitroglycerin stands in the front rank of remedies for anemia, and that a much larger quantity of blood is obtained by the tissues, while the mere giving of iron is one of the most common of therapeutic fallacies of the day, because of the contracted vessels. Nitroglycerin is transient in its effects and ought to be given in broken doses of one-thousandth of a grain, often repeated. Sluggish conditions of the retina, like retinitis pigmentosa and optic nerve atrophy ought to have this treatment, and it promises the best results in such delayed conditions as slow corneal repair after cataract extraction. Strychnin will be added to this, because it prevents side-tracking of the waste material and venous blood. Its tendency is to balance-wheel the body mechanism in all its parts, following an inflammation or a degeneration. It is like replacing the telegraph lines after a storm. It increases connections. The rule again is broken doses often repeated and effects carefully watched.

Atropin dilates the vast cutaneous system, and is thus one of our most efficient remedies for internal bleeding from nasal or other internal organs. As it dries up glandular secretion, it is suitable in bleeding from mucous membrane or internal glands. As to pilocarpin, experiment proves that it acts by paralyzing the vasomotor system. The increased action of the heart and flushing of the skin is due to the dilation of the arteri-

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oles. DeWecker has shown how it brings about absorption and resolution in inflammatory eye diseases with effusion and exudation. DeSchweinitz has also shown its wide field of usefulness if used in broken doses.

In albuminuric retinitis and allied conditions, the salvation of the retina, as well as the life of the patient, may depend on the reduction of tension by the general dilation of the vascular system.

INTRANASAL ANGIOMA: BLEEDING POLYPUS OF THE SEPTUM.*

BY W. E. CASSELBERRY, M.D.

Professor of Laryngology and Rhinology in Northwestern University Medical School; Laryngologist to St. Luke's and Wesley Hospitals, etc.

CHICAGO.

A typical *angioma simplex* is composed of new-formed, very tortuous blood-vessels, held together by a small amount of connective tissue and situated usually in the skin, e. g., nevus. The normal vessels of the part where it is situated may enter more or less into its formation, becoming dilated and tortuous, and it has therefore become customary to include in the class of angiomata tumors composed entirely of dilated pre-existent vessels, although the term telangiectasis or telangiectoma is by some preferred to this sort of angioma where dilatation is more prominent than actual new formation.

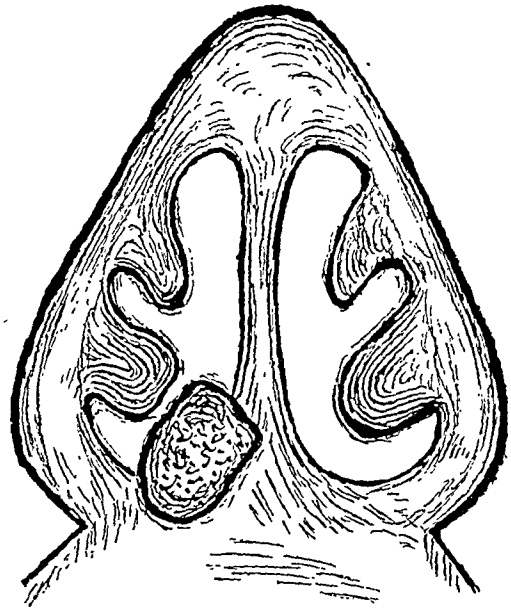

FIGURE 1.

A typical *angioma cavernosum* is composed chiefly of blood spaces lined with endothelium, separated by a stroma of connective tissue. The spaces contain venous blood, but seem to represent capillaries, being interposed between arteries and veins. The structure is similar to that of the corpus cavernosum. Such are often found in the liver.

The vascular tumors which grow on the septum narium do not conform exactly to either of these types. They contain both blood-vessels and blood spaces, thus far representing rather a combination of the two types, and they contain also a larger proportion of reticular connective tissue, with either round or spindle cells. In some this reticulum has a fibrillary character justifying the term angiofibroma. Among themselves, however, as occurring in this situation on the septum narium, they do present a tolerable uniformity of structure, the differences being variations in degree rather than of kind and, as their salient characteristic is extreme vascularity, they are best grouped under the term "intranasal angioma." The condition is exemplified in the following case:

Mrs. T., aged about 30, married, pregnant, has been annoyed for the past few months by frequent bleeding from the right nostril, and gradually increasing obstruction. Examination disclosed a soft, reddish, irregularly nodulated tumor the size of a small bean, attached by a rather broad pedicle to a small excrescence of the septum at the point of junction of the cartilaginous segment with the septal process of the superior maxilla, (Fig. 1) just within the nostril and close to the floor. It bled easily on contact with a probe. I removed it with a cautery snare and cauterized the base with chromic acid. Three weeks later one small vascular point, still unhealed and disposed to bleed, was again cauterized with chromic acid. There has been no recurrence for two years. The microscopic examination, made by Dr. R. H. Harvey, shows the tumor to be composed largely of blood-vessels and blood spaces. The blood-vessels vary in size and most of them contain more or less blood. Some are collapsed. The blood spaces are partly lined with epithelium. Between these vessels and spaces is connective tissue in which are numerous round

FIGURE 2.

and young connective tissue cells. On one edge of the tumor is a remnant of mucous membrane. The diagnosis is angioma. Microphotographs of sections under high and low power are appended (Figs. 2 and 3).

I can not think that these tumors are as rare as has been represented, although they have attracted little notice until recently, when, following Victor Lange[1] in 1892, papers have appeared by Schadewaldt, Alexander, Sheier and Heyman, all in the *Archiv für Laryngologie und Rhinologie* (Band I, 1894) under the title of bleeding polypus of the septum. Their detailed pathologic descriptions tally so closely with each other and also with that of my own case as above given, that they must all be the same sort of tumor, notwithstanding one is spoken of as soft fibroma, and another showing some glandular tissue as lymphangioma telangiectaticum. Since then Pierce[2] has reported a case under the name

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of telangiectoma the microphotograph of which seems to be identical with mine except that spindle cells are more prominent in the stroma than round cells. Cobb[3] in 1893, reported a case under the name of cavernous angioma, described as growing from the septum with large vascular sinuses and round cells in the stroma. He cites several cases from the earlier literature, but some of them are confused with other neoplasms, e. g., sarcoma.

I estimate that thirty or more bona-fide cases are reported, excluding those in which there was a sarcomatous element or in which they were simply vascular polypi growing from other situations.

The exact site on the septum has varied, but all were toward the anterior part and several at the base. The size is from that of a pea to a hazel-nut; if much larger one should strongly suspect sarcoma. The surface is nodulated or furrowed, but may be smooth, the color a mottled blue or red, and the pedicle either narrow or

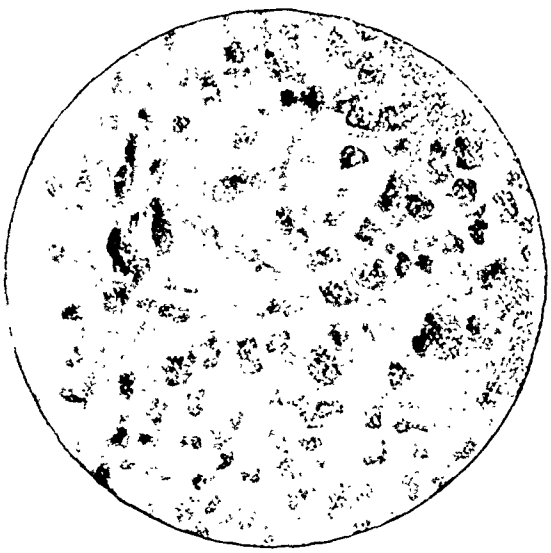

FIGURE 3.

broad. The salient symptoms are hemorrhage and obstruction. They show little tendency to recurrence if thoroughly removed. They are more frequent in females than males, in the proportion of 3 to 1. Sarcoma should be excluded by careful microscopic examination.

Cavernous angioma is also described[5] as occurring on the anterior and median portions of the inferior turbinated body. In this situation one must avoid confusing mere hyperplasia of the normal cavernous structure with a neoplasm, although the latter does occur and the illustration and pathologic descriptions given by Schwager[4] show it to conform closely to angioma as it occurs on the septum.

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3. Cobb: Trans. Pan-American Med. Cong., 1893, vol. ii, p. 1340.
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WITH THE January number, the *Woman's Medical Journal*, Toledo, Ohio, enters on its tenth volume. It shows every evidence of prosperity in its new cover, improved paper, new type and general make-up. The editorial staff has been enlarged, and Dr. Eliza H. Root assumes active editorial management. We congratulate the *Journal* and its readers, and wish it continued prosperity.

A CASE OF CARCINOMA OF THE NASAL PASSAGES.*

BY J. L. GOODALE, M.D.
BOSTON.

Mr. J. A. S., a commercial traveler, 51 years of age, was referred to me by Dr. F. E. Cheney of Boston, June 4, 1898.

Previous History.—For thirty-three years the patient had had nasal polypi removed at regular and frequent intervals from the left nasal passage, by various physicians, and within the past few years also occasionally from the right side. Otherwise the health had been good. There was no evidence of syphilis.

Present Illness.—Six months ago the polypi on the left side were said to have become firmer and their removal attended with more bleeding than formerly. The left eye simultaneously became painful and began to exhibit protrusion from the orbit. A progressive impairment of flesh and strength was observed.

Examination.—He was well developed and fairly well nourished. The right nasal passage contained a few small polypi; the left was nearly completely filled with small and large masses, all having the appearance, clinically, of ordinary polypi, with the exception of a pale red mass, the size of an almond, springing from the region of the infundibulum, of firm consistence and adherent in places both to the septum and the external nasal wall. After breaking down the adhesions, the greater part of this mass was removed with the cold snare. The hemorrhage was moderate and easily controlled.

Microscopic examination was made by Dr. J. H. Wright, pathologist to the Massachusetts General Hospital, and showed the specimen to consist "essentially of connective tissue inclosing numerous groups and masses of moderate-sized, vesicular, nucleated cells, closely packed together. The connective tissue is in places dense and fibrous, and other places it is loose and presents the appearances of the reticular tissue of nasal polyps. Here and there in the midst of the connective tissue small irregular islands of atypical bone tissue are present. Diagnosis: carcinoma."

Owing to the extent of the disease, a radical operation was not advised. During the next few months a large amount of carcinomatous tissue was removed intranasally. Recurrence was rapid, and the impairment of flesh and strength became continually more apparent. The exophthalmus became extreme, and the pain in the orbit required several grains of morphin daily. There was no evidence of the disease invading the structures of the eye.

The death of the patient was reported to me as occurring April 19, 1899. The history of malignancy thus extended over a period of fifteen months.

REPORT OF A CASE OF ECHINOCOCCUS CYST OF THE NOSE.*

BY W. K. ROGERS, M.D.
COLUMBUS, OHIO.

The subject of this report, Mrs. W. M. S., was referred to the writer by Dr. Hatch, of Newark, Ohio, April 29, 1895, for the removal of what seemed to be a rather large fibroid polypus nearly filling the vault of the pharynx. It was attached to the septum, on the left side, near its posterior extremity, and nasal breathing could

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

not be accomplished. Growing from a point near the posterior extremity of the left middle turbinated body was another tumor about one-half an inch long and one-quarter of an inch thick, much softer, and differing in no way from an ordinary mucoid polypus in appearance. Both were removed; the former by means of forceps, through the mouth, and the latter with a cold wire snare through the nose. The stump of each was touched with a galvanocautery point, and under Dr. Hatch's care the surfaces healed satisfactorily.

On account of the rather unusual firmness of the pharyngeal mass, it was subjected to microscopic examination, but found to consist of nothing unusual. The tumor from the turbinated body looked so commonplace that nothing was thought of it, and it escaped examination.

The patient was subsequently seen two or three times in as many months, without any sign of recurrence being noted.

On Dec. 9, 1897, two years and eight months after the operation, the patient again called, having for some time observed evidences of obstruction. She stated that two months prior to this visit a violent effort to get rid of the stoppage, by blowing the nose, had resulted in its disappearance, and the expulsion of a considerable amount of almost clear straw-colored fluid. The relief was only temporary, and examination showed what again looked like a mucous polyp, rather softer than usual, and evidently containing fluid. Its attachment, as nearly as could be made out, was the stump of the original growth in the nose—not the fibrous mass in the pharynx. During its removal with a cold wire snare—through the nose—it was ruptured, so that its size could not be accurately estimated. It was at least as big as a large almond, single, and irregular in shape. A microscopic examination showed that the walls contained numerous echinococcus hooklets. The stump was cauterized as before, and two years later there had been no recurrence.

It may be of interest to note that careful inquiry failed to elicit any evidence of intestinal parasites. The patient was under 34 years old, and in good general health.

I believe a similar case was recorded in Sajou's Annual some years ago, but I have been unable to find the account, and it is the only other case of which I have heard.

CONTRIBUTIONS OF THE MEDICAL PROFESSION TO GENERAL LITERATURE AND COLLATERAL SCIENCES.*

BY GEORGE R. HIGHSMITH, M.D.
CARROLLTON, MO.

This is an age of progress, in which the genius and untiring labor of the philosopher, the scientific thinker and the patient investigator have laid broad and deep the foundations for a higher and happier civilization than the world has hitherto known. There has been an intellectual advancement, a moral uplifting, an ethical awakening, and a quickening of perception, which have led to the proper recognition of the duties and responsibilities of an enlightened citizenship. A broader and truer imperialism has been inaugurated; intellectual expansion has become a fixed policy of the entire profession, and the dream of happiness, through fraternity, freedom, justice and humanity seems to be realized.

There never was a time in the history of the world when knowledge was so easily accessible, and so eagerly sought after by the entire profession. The plodding country practitioner, located at the cross-roads, is as near the "springs of Helicon," and drinks as deep as his city brother. There never was a time, in my opinion, when the individual influence of the physician was greater; there never was a time when the future of the medical profession was brighter with promise. The history of medicine is the history of progress in all departments of learning.

It was not until about the middle of the seventeenth century that the clerical element was divorced from medical circles. In fact, for some time after, in looking up the individual history of the physician, one is struck by the frequency with which the study of theology is referred to as a preliminary to the study of medicine. Many men who became eminent as medical practitioners were originally intended for the church.

About the time of Charles II of England, the medical profession first began to hold a place in general literature. About this time the so-called "wits" began to be the fashion. A man was nothing if not a wit, and if he had a reputation for wit he could be a drunkard, gambler and libertine combined, without losing his place in the court circles of Charles II. Every age has had its wits, but they were so numerous then as to distinguish the era by a special brilliancy, and the periods most abounding in them have been those most free from wars or other active political disturbances. The early period of the Augustan age, the Restoration and the commencement of the Hanoverian dynasty have all been enlivened by wits, who came to light like mushrooms after a storm of rain, as soon as the political horizon was clear. These men were the offspring of the particular times in which they figured; at earlier periods they would have been considered effeminate—at later, absurd. About this time clubs and coffee houses were inaugurated. Among the physicians who ranked as wits, and who obtained a reputation in literature were Walter Charleton, Sir Samuel Garth and John Arbuthnot. Walter Charleton, 1619-1707, was physician to Charles II, and president of the College of Physicians, London. He was the author of "A Brief Discourse on the Different Wits of Men," in which he attributes the varieties of talents among men to the difference in the form, size and qualities of their brains. He also was a writer on theology, zoölogy, physics and antiquities. He translated the "Morals of Epicurious."

Sir Samuel Garth, 1670-1718, was a man of great wealth and learning. He became a member of the College of Physicians, London, in 1691. He was the first physician of prominence to advocate the establishment of free dispensaries for the poor. By this he gained the animosity of the College of Physicians, in consequence of which he published "The Dispensary," a mock heroic poem in six cantos, which was an instant success, passing through three editions the first year. He published "Claremont," a moral epistle in verse. He was a very genial character; "Well Natured Garth," Pope called him. Pope also said that he was "as good a Christian as any man living, without knowing it." Dr. Garth was a member of the famous "Kit-kat" Club, to which he gained admission by reason of a eulogy on King William, introduced into his Harveian oration in 1697. It was Garth who extemporized most of the verses inscribed on the drinking cups of the "Kit-kat" Club, and which are preserved to this day. Dr. Garth was the principal physician of the Whigs, and physician-in-ordinary to the King; he followed the Duke of Marlborough through all the vicissitudes of h[illegible]eer; [illegible]ighte

*Address of the President delivered at the Forty-second Annual Meeting of the Missouri State Medical Association, held at Sedalia, May 17-19, 1899.

by George I, in 1714, with the Duke of Marlborough's sword, and delivered the oration at the funeral of the poet Dryden.

John Arbuthnot, 1667-1735, took the degree of M.D. at the University of Aberdeen, and immediately went to London for the practice of medicine. In 1704 Prince George of Denmark was taken suddenly ill; Dr. Arbuthnot, being near at the time, was called to attend him, and afterward continued to be his physician. In 1705, at the request of Queen Anne, he was made her physician-extraordinary, and four years later was made royal physician-in-ordinary. He was now in the very center of the literary society of the time, and his great talent, massive learning and brilliant wit enabled him to take a prominent place. He was on intimate terms with Pope, Gay, Swift and Parnell, and he quickly became one of the foremost literary men of the Tory party. In 1712 appeared the celebrated political allegory, called "The History of John Bull;" it is from this that the term "John Bull" as applied to the English nation was derived. At the time this work appeared it was generally attributed to Swift, but passages in Swift's own letters make it quite sure that Arbuthnot was the sole author. He belonged to the "Scriblerus Club;" the first book of the "Memoirs of Martinus Scriblerus," published in Pope's works, is undoubtedly the work of Arbuthnot; it is an admirable combination of wit and learning, and is considered one of the finest specimens of sarcastic humor in the English language. Arbuthnot continued the practice of medicine as long as he lived, although at the death of Queen Anne he lost his place as court physician. He attained great eminence in his profession and in 1727 delivered the Harveian oration.

Among physicians who contributed to general literature and science during this period, and who do not belong in the class of wits, were Sir Thomas Browne, Henry Vaughan and Sir Richard Blackmore.

Sir Thomas Browne, 1605-1682, was the most learned physician, and the most prominent literary man of his time. He took the degree of B. A. at Broadgate Hall, Oxford, in 1626, and the further degree, M. A., in 1629, then studied medicine and practiced in Oxfordshire. About 1633 he left England and traveled through Ireland, France and Italy, and on his way home received the degree of M. D. at the University of Leyden. In 1642 he published "Religio Medici," or "The Religion of a Physician." Its success was very great and the author at once became celebrated as a man of letters. In 1646 he published "Pseudodoxia Epidemica," or "Enquiries into Vulgar Errors." In 1658 appeared "Urn Burial" and the "Garden of Cyrus." In 1651 he was knighted by Charles II. His form of thought is peculiar and remarkable, and his style unique, rich with a lavish use of metaphor and allegory. His "Religio Medici" is considered his best work, his "Vulgar Errors" shows great research; but the whole strength of his genius, and the wonderful charm of his style are to be found in "Urn Burial," the concluding chapter of which, for richness of imagery and majestic pomp of diction can hardly be paralleled in the English language, unless it may be in the sublime passages of Milton's prose.

Henry Vaughan, 1621-1693, was born in Wales, but studied melicine in England and practiced for the most part in London. He published a volume of poetry before he began the study of medicine. He began to practice medicine at 28 and continued in it as long as he lived. He wrote "Mount of Olives," a mystic prose work; but is best known as the author of the poems, "The Retreat," "The World," and "Beyond the Veil."

Sir Richard Blackmore, 1650-1729, was educated at Westminster and Oxford, graduated in medicine at Padua, and settled for practice in London. In 1697 he was chosen one of King William's physicians, which office he held for some time. Blackmore had a passion for writing epics; no fewer than seven being published between 1695 and 1723; "Prince Arthur" in 10 books; "King Arthur" in 12; "Eliza" in 10; "Creation" 7; "Redemption," 6; "Nature of Man," 3; and "Alfred" in 12. Addison and Johnson praised him highly, Johnson saying that "his name would be transmitted to posterity as the first favorite of the English muse."

During the first half of the eighteenth century physicians began more and more to attach themselves to political parties, or court favor and patronage of men of rank. The Whig and Tory parties each had their physicians, as well as each club and coffee house. By the middle of the eighteenth century, most of the physicians and surgeons of the better class had either assumed offices and positions in which they were supported by the state, or were settled by their noble patrons in permanent residences. Some of them were supplied with large libraries, either by their patrons or by the government, and most of them enjoyed moderate prosperity.

Intellect had marched forward with gigantic strides, among writers wit had, in a measure, given place to satire. Dr. John Armstrong and Dr. Mark Akenside held the boards as contemporaries of Oliver Goldsmith, Tobias Smollett, Horace Walpole, Richard Brinsley Sheridan, David Garrick, Samuel Johnson, *et id omne genus.* Clubs and coffee houses were still a prominent feature of literary and scientific circles, but the character of the company had changed; there was a mingling of aristocracy with talent, the blending of ranks by force of intellect; the assembling not only of all the celebrities that Europe could boast, but all from the whole civlized world that could enhance private enjoyment; company was not selected for rank, but for peculiar merit or acquirements; pomp and wealth were made subsidiary to the true luxury of intellectual conversation. The famous literary club of which Johnson was the autocrat was at its zenith.

John Armstrong, 1705-1779, graduated at the University of Edinburgh and soon afterward settled in London. In 1746 he was appointed one of the physicians to the hospital behind the Buckingham House, and in 1760, physician to the army in Germany, which appointment he held until the peace of 1763. His first publication, "An Essay for Abridging the Study of Physic," was published in 1735. It was a satire on the ignorance of the apothecaries and medical men of his day. Two years later he published "The Economy of Love," the indecency of which very much damaged his professional practice. In 1774 appeared his "Art of Preserving Health," a didactic poem on which his reputation as a literary character rests. He also published about this time, a volume of "Miscellanies," which displays considerable humor and powers of observation.

Mark Akenside, 1721-1770, author of "Pleasures of Imagination," was the son of a butcher. In his nineteenth year, being intended for the church, he entered the Theological School of the University of Edinburgh, but like many young men of his time, he changed his mind and transferred from the theological to the medical department. In 1740 there was organized a medical society and debating club combined. Akenside became a member, and Dugald Stewart says that Robinson, the historian, used to attend in order to hear Akenside's speeches, so famed was he in oratory.

In 1743, the publisher Dodsley came to Pope for his opinion, with a bundle of manuscript for which the writer wanted £120. After reading the manuscript, which was "Pleasures of Imagination," "the oracle of Twickenham" advised the publisher to make no niggardly offer, as this was no "every-day writer." In his 23d year, like Byron, he awoke and found himself famous. He went to Leyden and pursued his medical studies with ardor, and in 1774 obtained the degree of M. D. His thesis describing the formation and growth of the human fetus was characterized by originality and acute observation. In 1773 the University of Cambridge bestowed on him the degree of Doctor of Medicine. In 1754 he was elected Fellow of the College of Physicians; in 1775 he delivered the Goulstonian lectures; in 1756, the Croonian lectures; in 1759 he was chosen chief of St. Thomas Hospital, and in 1760 he delivered the Harveian oration. In 1761 he changed his politics from Whig to Tory, which added "renegade" to his name. He was a man of great personal vanity, which often brought him into ridicule. Akenside furnished the original from which the doctor in Smollett's "Peregrine Pickle" was drawn. His fame as a poet is secure; some of his minor poems are characterized by a classic grace and charm of expression.

Passing to the latter half of the eighteenth century and the first half of the nineteenth, we find a long list of those who have enriched literature and science by their contributions. Among the illustrious names of this period we find Erasmus Darwin, Henry Dearborn, James Currie, John Wolcott, Thomas Brown, James Gates, Percival and Charles Lever.

Erasmus Darwin, 1731-1802, physician, scientist and poet, took the degree of M.D. at the University of Edinburgh, and settled as practicing physician in Litchfield, England, where he gained a large practice. While here, it is said, he did much to diminish drunkenness among the inhabitants; he is said to have been a good eater but drank nothing except water. In 1781 he removed to Derby, where he spent the remainder of his life. He wrote "The Temple of Nature," "The Shrine of Nature," and "The Botanic Garden," the second part of which, "The Loves of the Plants," furnished the occasion for Canning's clever caricature, "The Loves of the Triangles." He was also the author of a scientific work, "Zoonomia," which contains a system of pathology, and a treatise on generation, in which very nearly the same ideas are advanced as underlie the modern theory of evolution. Erasmus Darwin said: "Would it be too bold to imagine that in the great length of time since the earth began to exist; perhaps millions of ages before the commencement of the history of mankind; would it be too bold to imagine that all warm-blooded animals have arisen from the same living filament, which the great First Cause endued with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions and associations, and thus possessing the faculty of continuing to improve by its own inherent activity, and of delivering down these improvements by generation to its posterity, worlds without end, . . . and that one and the same kind of living filament is and has been the cause of all organic life?" May not Charles Darwin be more indebted to his illustrious grandfather, who did his writing and thinking as he journeyed from one patient to another, than many of us suppose? May not his love of nature and his capacity for investigation and the facility with which he classifies facts and formulates theories, be partly at least due to the hereditary transmission of genius? How much may Huxley, Tyndall, Spencer, Haeckel, Helmholtz and other apostles of evolution be indebted to this modest practitioner of medicine? When we take into consideration the poverty of the English language at that time, especially in scientific terms, how much difference in the meaning exists between the above quotation from Erasmus Darwin and Tyndall's expression: "One single atom of protoplasm contains the power and potency of all things?" The poetical reputation of Darwin was as bright as the plants and flowers which formed the subject of his verse. Cowper praised his song for its rich embellishments, and said it was "as strong as it was learned and sweet."

Henry Dearborn, 1751-1829, was a practicing physician in Portsmouth, N. H., at the beginning of the American Revolution. Immediately after the battle of Lexington he raised a company of sixty men and joined the American forces at Cambridge. He continued in the army until the close of the war, and was mustered out with the rank of general. He then returned to his practice, but was soon made marshal of the district of Maine. The remainder of his life was spent in office; he was Secretary of War from 1801 to 1809; he served two terms in Congress, and was minister to Portugal from 1822 to 1824. His literary work consists of official reports in the several capacities in which he served, and are said to be models in a literary sense.

James Currie, 1756-1805, was born in Dumfriesshire, Scotland. Being destined for business, he was sent at an early age to the colony of Virginia in America. In consequence of having written a series of letters to an American journal, over the signature of "An Old Man," in defense of the "mother country," he found it would be more comfortable for him to return to Scotland, which he did in 1776. He at once began the study of medicine, and in 1780 took the degree of M.D. at Glasgow. He settled at Liverpool for practice, and in 1783 was elected physician to the infirmary. Among Currie's literary works may be mentioned a Tory pamphlet signed "Jasper Wilson," which ran through several editions, and "Medical Reports on Effect of Water, Cold and Warm," etc. But he is best known as the editor of an edition of Burns, with an introductory criticism, and an essay on the "Character and Condition of the Scottish Peasantry."

John Wolcott, 1758-1819, with the pseudonym "Peter Pindar," received the degree of M.D. at the University of Aberdeen in 1767. In 1769 he accompanied Sir William Trelawny, who had been appointed governor of Jamaica, to the West Indies. On the death of his patron, in 1772, he returned to England and settled as a physician at Truro. In 1781 he gave up the practice of medicine, removed to London, and turned his whole attention to literature. His special *forte* was satire, and George III was his favorite subject for ridicule. He wrote "Lousiad," "Peeps at St. James," and the "Royal Visit to Exeter," in the last of which he depicts the king's wonder as to how the apples got in the dumplings. He ridiculed "Boswell's Life of Johnson" in an "Epistle to Boswell," and in "Bozzy and Piozzi." In 1795 he disposed of all his works to the book-sellers, for an annuity of £250 a year. His satires are said to have had such an effect on public opinion that he was offered a pension by the ministers of the government if he would refrain from further ridicule of the king. His humor was broad and deep, and he was endowed with wonderful facility of expression.

Thomas Brown, 1778-1820, was a Scotch psychologist, physician and poet. He began the practice of medicine

in 1806. In 1809 he obtained a professorship in Edinburgh, in the University, and he lectured on mental and moral philosophy. He is said to have been a very fascinating lecturer. His mind was quick and active, and there was not one of his lectures which did not contain some new doctrine, or some new and striking application of the old. He died at the age of 42. What a mind of such subtility and fertility might have accomplished had the thinker been spared a little longer, it is hard to say. His best poem is "Paradise of Coquettes." His poetry shows delicacy of touch, fineness of feeling and sweetness of diction.

James Gates Percival, 1795-1856, was a native of Kensington, Conn., graduated at Yale in 1815, at the head of his class, taught school for a while, then studied medicine and located in Charleston, S. C. In 1824 he was appointed assistant-surgeon in the United States Army, and was made professor of chemistry at the U. S. Military Academy. In 1822 he published "Prometheus," and "Clio;" in 1826 two volumes of poetry, and in 1843 his "Dreams of a Day." In 1854 he was appointed geologist of Wisconsin, in which office he died two years later.

Charles Lever, 1806-1872, obtained a degree at Trinity College, Dublin; later he studied medicine and received the degree of M.D. at Goettingen. He then visited the United States, where, it is said, he sojourned among the Indians, adopting their dress and mode of living. He practiced medicine at Kilrush, County Galway, and other places in Ireland. He then went to Brussels with a letter to the secretary of the English legation; although not formally appointed, he acted as physician to the legation for some time. He early began to write and publish short stories, according to his statement, not with any hope of becoming celebrated as a literary man, but with the view of securing attention and gaining friends to further his success as a physician. These short stories were afterward utilized for many of the principal incidents in his successful novels, especially "Harry Lorequer," "Charles O'Malley," "Con Cregan" and "The Knight of Guynne." In 1842 he retired from the practice of medicine and devoted the remainder of his life to literature. Lever always claimed that all his characters were drawn from life, in many instances taken from his most intimate associates. In 1858 he received a government appointment and continued in office as long as he lived.

(To be Continued.)

Clinical Report.

REPORT OF RECOVERY FROM TRAUMATIC TETANUS.

BY L. B. VAN CAMP, M.D.

Resident Physician and Surgeon, Douglas County Hospital.
OMAHA, NEB.

As the percentage of recoveries from tetanus is exceedingly small, a report of the treatment and successful recovery of a patient, afflicted with a most severe siege of the disease, may be of interest.

On Sept. 9, 1899, a German farmer boy, aged 15 years, was brought to the Douglas County Hospital, exhibiting most severe symptoms of lockjaw. His history, as given by him, was as follows: Three weeks previously, while working on a farm, he had received a cut with a corn-knife, between the first and second toes of the right foot. He complained of nothing for ten days after the injury. At noon on the eleventh day, while at the dinner table, he found that he could not completely close his lower jaw. His condition grew worse and, on the fifteenth day after the injury, he was seized by a severe chill followed by a violent contraction of the muscles of the back, causing him to fall on his face, and rendering him unable to rise.

He was sent to this hospital, where he came under my observation. He was then having a paroxysm every five minutes and even oftener on the slightest provocation, as for example, a footfall or the entrance of anyone into the room. His abdomen felt like a board, his whole body was rigid, there was, in a word, orthotonos. He had also the risus sardonicus, his temperature was about 101, his pulse 96, and he was very constipated. I ordered him thoroughly bathed in warm water, and placed in a dark room, where he could be kept quiet. As the slightest noise caused him to have a paroxysm, he was kept under the influence of morphin sulphate, as well on this account as because he complained of severe pain in the back at each paroxysm. Hyoscin hydrobromate and potassium bromid were also used, but with an unsatisfactory result. His constipation was overcome by calomel followed by a saline, or, when these remedies failed, by an enema. The principal treatment consisted, however, of the injection of tetanus antitoxin. On the first day at the hospital, which was the third day of paroxysms, I injected 10 c.c. of the antitoxin hypodermically between the scapulæ. The following day there was very little improvement, so 10 c.c. more was injected into the lumbar region. On the third day there was some improvement—the paroxysms were not as frequent or as severe. Opisthotonos, which was well marked from the beginning, still prevailed. Morphin hypodermically was still resorted to for allaying the pain and controlling the paroxysms.

On the fourth day after the first injection, there was considerable improvement; the patient could open his mouth a little for the first time since he had been in the hospital. The paroxysms were growing less frequent and less severe. The antitoxin was again administered in the lumbar region. On the fifth day there was a decided improvement—the mouth could be opened half way, the paroxysms were less painful, and occurred not more than two or three times in an hour. Another 10 c.c. of the antitoxin was administered—making in all 50 c.c. On the sixth day the symptoms had so far ceased that another injection was deemed unnecessary. The patient was now able to take nourishment, which was of a liquid form at all times, without the use of a rubber tube, which had been used previously, when his mouth was within an eighth of an inch of being entirely closed. On the tenth day after the first injection, he was able to sit up in bed: and on the fifteenth day after the antitoxin was first given he was discharged from the sick ward.

Closure of Abdomen.—Montgomery, in the *Medical Age* for Dec. 25, 1899, advocates suture of the separate layers in abdominal operations, to guard against ventral hernia occurring. He first introduces a continuous catgut suture of the peritoneum, then passes interrupted silkworm gut sutures through the overlying tissue, these also passing through the projecting edges of the peritoneum between the suture introduced. A continuous catgut suture is used to coaptate the edges of the aponeurosis, and then the skin sutures are tied, but not tightly enough to produce great tension. The cut ends of the latter are left three or four inches long and, while they are held up, a wet bichlorid dressing is applied over the wound and around the sutures. Left this length, they act as drainage, where a little oozing occurs; they also facilitate removal.

Therapeutics.

Rational Treatment of Delirium Tremens.

The treatment of delirium tremens, as practiced by many physicians, is far from satisfactory, and he who will look up various authorities for light on the subject will be puzzled and bewildered by many conflicting and contradictory statements. As in all diseases of which the treatment is more or less empiric, we have here enthusiastic advocates for various methods, each of which is considered to excel the other.

One physician will assert that he can readily cure the disease by his special d. t. mixture, which in nearly every case is a combination of powerful sedatives. He says: "Put the patient to sleep and the disease is cured." Others, remembering cases that have died of sudden heart failure, consider this "sleep-at-any-price" treatment extremely dangerous, and believe that stimulants should be employed at the very beginning. Many physicians consider the sudden withdrawal of alcohol as the cause of the attack and advocate the administration of alcohol in gradually diminishing doses; while others allege that sudden and complete withdrawal of alcohol is the first essential in the treatment, substituting large doses of strychnin or digitalis. Other practitioners, believing that the disease is a toxemia, advise elimination through the skin, bowels and kidneys and recommend feeding only after thorough elimination. Again, other clinicians affirm that the best treatment is to produce emesis by means of tartar emetic or apomorphia, followed by a cold bath. And there are those who discard all the above methods as useless and assert that delirium tremens is a self-limited disease, and that the patient either recovers, in spite of the treatment, or dies from exhaustion or starvation, and that proper restraint and careful feeding are the only important measures worth considering.

It appears to us that the rational treatment of delirium tremens should be both etiologic and symptomatic.

ETIOLOGIC TREATMENT.

The two apparently conflicting views as to the causation of delirium tremens are:

1. That it is a psychosis, i. e., a functional disturbance of the mind, the mental equilibrium being weakened by the excessive use of alcohol, any one of the numerous exciting factors serving to precipitate an attack, such as injuries, mental and physical shock, intoxications, sudden withdrawal of alcohol, etc.

2. That it is an intoxication, the symptoms depending on the presence in the system of irritating poisons. These poisons may be of various kinds; they may be retentive products due to renal insufficiency, intestine toxins, or the intoxication of an infectious disease. Certain it is that toxemias, as those of erysipelas, pneumonia or suppuration, produce in the drunkard a delirium identical with delirium tremens.

While not attempting to decide in favor of either theory, it appears that a combination of the two would explain the great majority of the cases. It is quite probable that we have to deal with an unstable nervous system suffering under the effects of an intoxication. The practical application is this: Recognizing the psychic factor—an unstable nervous system—as a prominent element in the disease, we would guard the patient from shock, injury, or excitement by placing him in charge of one or two good, strong, trained attendants who are able to soothe and divert his mind or physically able to restrain him without the use of violence. Believing intoxication to be the exciting factor, all cases should receive energetic eliminative treatment, by means of active catharsis, hot baths, and, in the robust, free diaphoresis. All drugs which tend to check secretions, e. g., opium, are contraindicated, and from practical experience we can say that cases do poorly under the opium treatment. Poisonous drugs should be administered with great moderation and caution. Especially would we refrain from using alcohol. The idea that the sudden withdrawal of alcohol is the cause of the delirium appears to be a fallacy: 1, because of the history in many cases of constant and excessive drinking up to the onset of the most severe symptoms; 2, because prison, asylum, military, and hospital experience shows innumerable cases of chronic alcoholism in which the alcohol has been suddenly cut off without producing delirium tremens; 3, because patients treated with alcohol during an attack of delirium tremens certainly do no better and usually worse than those treated without it.

SYMPTOMATIC TREATMENT.

In delirium tremens, more than any other disease, it is necessary to remember that we "treat the patient and not the disease." There is in these cases loathing of food and drink, and at the same time expenditure of energy, factors which tend to cause the fatal result.

Feeding is of the greatest importance, not only to prevent exhaustion and cardiac failure in the later stages of the disease, but also because the patient is usually in a half-starved condition, having as a rule taken little food for a considerable time before the onset of acute symptoms.

The patient will usually take the following mixture: Tinct. capsici, m. xv, in a cupful of hot milk every 3 or 4 hours. This will "settle his stomach," acting as a local as well as general stimulant, and is all the nourishment necessary in most cases. If the patient refuses all food on account of his delusions, a nasal tube should be passed and fluid food introduced into the stomach at intervals of not more than three hours. If vomiting occurs, a mixture of equal parts of matzoon and seltzer is sometimes retained. Persistent vomiting is to be combated by ice, effervescing draughts, lime-water, and careful feeding in small quantities; at the same time giving nutrient enemata.

To control the delirium and terror of the patient, his excitement, restlessness and sleeplessness, the cautious administration of hypnotics appears certainly indicated. The following is beneficial:

℞. Chloralis ..... ℥iv
Potassii brom. ..... ℥iv
Tinct. hyoscyami ..... ℥iv
Aquæ chloroformi, q. s., ad ..... ℥iv
M. Sig. Dessertspoonful every 2 hours until quiet or until 3 doses are given, then every four hours, as required.

In the prodromal stage, when the symptoms are slight but characteristic, the attack has apparently been aborted in numerous instances by the above treatment. If, after a fair trial, probably 6 or 8 doses of this mixture, the patient has not obtained sleep, and the absorptive power of the stomach seems impaired, or if the delirium is violent, hypodermatic administration of hyoscin hydrobromate in doses of 1/100 gr. every hour for three doses may be employed. This rarely fails to quiet the patient and produce sleep. Should it fail, however, and the delirium be excessive, rapidly exhausting the patient's strength, ether anesthesia is often efficacious.

The proper restraint is very important. The best method is to place the patient in a cool, quiet, dark, well-padded room with a mattress on the floor and two strong nurses in constant attendance. Where this is impossible, mechanical restraint becomes necessary. Sheets tied across the bed are not efficient. The use of leather straps to wrists and ankles is far from being satisfactory, for the patient will often abrade his skin or even break bones and exhaust his strength in his attempts to free himself. In some cases this strapping appears to convert a mild attack into a severe and even fatal one. A wire cage, just large enough to cover the patient's body as he lies in bed, but too small to allow him any range of motion, is used at the Alexian Brothers' Hospital, in this city, and, it is claimed, with excellent success.

Throughout the treatment the heart must be carefully watched, and on sign of impending exhaustion, strychnin sulphate, 1/30 gr., hypodermically every four, or even two hours, should be given.

Tincture digitalis in large doses is especially efficient in cases where the heart is weak and there is profuse perspiration.

In sudden collapse, the administration of a hypodermic barrelful of aromatic spirits of ammonia, camphorated oil, or both, will be found useful.

If there be a rise of temperature the cold bath will not only reduce the temperature, but also, frequently allay the delirium. Should there, however, be any sign of heart failure, the bath should be preceded by stimulation.

Apomorphin, hypodermically, in sufficiently large doses to produce vomiting, has again been recently recommended in medical journals, as a specific, but the writer has tried it in several cases without any appreciable result.

The disease is self-limited; and, unless death or complica-

tions occur, amelioration of the symptoms may be looked for in from 2 to 4 days. When convalescence begins, attempts should be made to break the drink habit by moral suasion, the administration of nux vomica, capsicum, and the like, a diet consisting largely of fruit, and, if necessary, the committing of the patient to a retreat for the cure of drunkards, followed by a total change in his mode of life.

That the reader may learn of the treatment recommended by other physicians the following prescriptions are given:

FOR ALCOHOLISM.

℞. Strychninæ nitratis.....gr. viii
Acidi salicylici.....gr. iv
Spiritus.....ʒi
Aquæ.....ʒiii
M. Make up antiseptically. m. xv=1/16 gr. of strychnin.
Sig. m. xv hypodermically two or three times a day.
—*Flint.*

The "cure" as carried out at Bellevue Hospital is as follows:

FIRST DAY'S INJECTION.

℞. Strychninæ nitratis.....gr. 1/15
Atropinæ sulphatis.....gr. 1/300
Aquæ dest.....m. x
M. Sig. Inject t. i. d.

SECOND DAY'S INJECTION.

℞. Strychninæ nitratis.....gr. 1/20
Atropinæ sulphatis.....gr. 1/200
Aquæ dest.....m. x
M. Sig. Inject t. i. d.

STOMACHIC MIXTURE.

℞. Tinct. cinchonæ comp.....m. xv
Tinct. capsici.....m.ss i
Tinct. solani carolinesis.....m. ii
Vini ferri amari, ad.....ʒi
M. Sig. ʒi t. i. d. Shake.

SEDATIVE MIXTURE.

(First and second nights if needed.)

℞. Potassii bromidi.....gr. xxxii
Chloralis.....gr. xvi
Tinct. valerianæ.....ʒi
Aquæ, ad.....ʒiv
M. Sig. Teaspoonful repeated once if needed. Shake.

DIET.

One-half to one glass of milk (hot or peptonized), alternating with hot beef tea or broth, every two hours. Stomach washing as necessary.

On being discharged the patient is given:

℞. Tinct. calumbæ.....ʒi
Tinct. capsici.....m. xv
Tinct. nucis vomicæ.....ʒi-iss
Apomorphiæ.....gr. 1/3
Tinct. cinchonæ comp., ad.....ʒiv
M. Sig. Teaspoonful in water after meals.—*C. L. Dana.*

℞. Auri et sodii chloridi.....gr. 1/24
Strychninæ nitratis.....gr. 1/60
Nitroglycerini.....gr. 1/100
Atropinæ sulphatis.....gr. 1/200
Digitalini.....gr. 1/60
Sodii chloridi.....gr. 1/8
M. et. ft. tab. No. 1. Sig. For hypodermic use.—*Dunham.*

To relieve the symptoms of gastritis and the craving for alcohol:

℞. Decoct. althæ.....ʒv
Aquæ chlorini.....ʒii
Sacchari albi.....ʒii
M. Sig Tablespoonful every two or three hours.—*Zedekauer.*

MANIA A POTU.

℞. Trional.....gr. xx
Tinct. capsici.....m. x
Aquæ, q. s.
M. Sig. For one dose.

This should be preceded by a calomel purge.—*Bellamy.*

To prevent the adynamia which may follow the sudden withdrawal of alcohol:

℞. Spt. ammonii aromat.....ʒss
Tinct. digitalis.....m. x
Strychninæ.....gr. 1/30
M. Sig. For one dose. Repeat every three hours.—*Tyson.*

Dr. Charles J. Douglas, in the *N. Y. Med. Jour.*, recommends for the insomnia and delirium of acute alcoholism one-thirtieth of a grain of apomorphin injected hypodermically. This dose is ordinarily large enough, but a sufficient quantity should be given to produce slight nausea.

Not only is sleep produced and the delirium allayed, but he claims the craving for alcohol is frequently relieved.

As soon as the acute symptoms have subsided, tonic treatment should be instituted and maintained for several weeks. For this purpose Dr. Douglas considers strychnin nitrate the most efficient remedy.

The Treatment of Amenorrhea.

The following formula may be employed, particularly if there is debility and anemia:

℞. Hydrargyri bichloridi
Sodii arsenatis
Strychninæ sulphatis, āā.....gr. i
Potassii carbonatis
Ferri sulphatis, āā.....gr. xxx
M. Divide in pil No. lx.
Sig. One after each meal.

In other cases it is well to give in place of this pill one of the following:

℞. Ferri arsenatis.....gr. ii
Extracti nucis vomicæ.....gr. xv
Manganes. sulphatis.....ʒi
M. Divide in pil No. lx.
Sig. One after each meal.

If there is reason to believe that the amenorrhea depends on constipation, the following may be prescribed:

℞. Ferri carbonatis
Ammoniaci
Aloes, āā.....ʒi
Syrupi, q. s.
M. Divide in pil No. l.
Sig. Give one or two a day after meals.

If there is obesity, the physician must insist upon the use of purgatives in addition to the emmenagogues. A useful formula under these circumstances is as follows:

℞. Aloes.....gr. xv
Rue
Savin
Saffron, āā.....gr. v
M. Make into 10 cachets, and give one twice or thrice a day.
—Lustaud: Consultations sur les Maladies des Femmes.

The following prescriptions are recommended for amenorrhea:

℞. Tinct. ferri chloridi.....ʒiii
Tinct. cantharides.....ʒi
Tinct. guaiaci ammon.....ʒxii
Tinct. aloes.....ʒiv
Syrupi, q. s., ad.....ʒvi
M. Sig. Tablespoonful three times a day.—Dewees: *N. Eng. Med. Monthly.*

℞. Ferri peptonized.....gr. xxx
Manganes. lactate.....gr. xxx
Scammony.....gr. xxx
Strychninæ sulph.....gr. 1/7
M. Divide in pil No. xl.
Sig. Two to four each evening on retiring.—Lustaud: *Med. Record.*

Silver Nitrate Injections in Pulmonary Phthisis.

Dr. Thomas J. Mays refers again to this treatment in a recent article in the *Philadelphia Medical Journal.* He gives the injections over the course of the vagi in the neck, and advises that the injections be made on the side of the neck below which the infected lung is located, although his experience has demonstrated that the side of the neck in which the injection accomplishes its best work varies in different individuals, and even in the same individual at different periods, and can not always be readily determined in advance.

Dr. Mays uses from 4 to 7 minims of a 2.5 per cent. solution of silver nitrate, to 5 minims of a 5 per cent. solution, while Dr. Charles W. Bachman, of Reading, Pa., has obtained good effects from the injection of 10 minims of a 2.5 per cent. solution.

This method of treating pulmonary phthisis has certainly produced good results in the hands of those who have adopted it.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), January 20.

1.—*Operative Treatment of Myopia of High Degree by Removal of Crystalline Lens. Charles Stedman Bull.
2.—*Gonorrhea; Its Dangers to Society. Albert Neisser.
3.—*Visit to the Newest Psychopathic Hospital. Frederick Peterson.
4.—*Diuretics in Renal Dropsy; Their Indications and Uses. E. R. Axtell.

New York Medical Journal, January 20.

5.—*Detection of Calculi in Liver and Gall-Bladder. Carl Beck.
6.—*Chronic Abscess of Frontal, Ethmoidal, and Sphenoidal Sinuses, followed by Meningitis and Death. J. H. Bryan.
7.—*Second Report on Therapeutics of Heroin. Morris Manges.
8.—*Cholelithiasis. E. C. Davidson.
9.—*Suppurative Ethmoiditis and Its Treatment. Frank S. Milbury.
10.—*Diarrhea. Charles O. Molz.
11.—*Influence of School Life on Vision. Peter A. Callan.
12.— Enucleation of the Eye. David Webster.

Boston Medical and Surgical Journal, January 18.

13.—*A Rhode Island Philosopher (Elisha Bartlett). William Osler.
14.— Value of X-Ray Examinations in the Less Frequent Diseases of the Chest, Illustrated by Their Use in Those Cases Where Aneurysm is Present or Suspected. Francis H. Williams.
15.—*Remarks on Gunshot Wounds of Reduced Caliber Rifles in Santiago Campaign. Louis A. LaGarde.
16.—*Otitis Media in All Grave Diseases of Infancy. E. H. Pomeroy.

Cincinnati Lancet-Clinic, January 20.

17.—*Vaginal Section. Chauncey D. Palmer.
18.—*My Experience with Ectopic Gestation. Thos. W. Wright.

Medical Record (N. Y.), January 20.

19.—*Comparative Statistics in Treatment of Appendicitis. Edwin Marion Cox.
20.—*Inversion of Uncut Appendix. J. F. Baldwin.
21.—*Consideration of Failure of Antitoxin in Operative Cases of Diphtheritic Croup. J. Edward Herman.
22.—*A Common Case and Its Practical Suggestions. Josephine M. Wetmore.
23.—*Gynecology and Gyecologists in Europe. Abram Brothers.

Philadelphia Medical Journal, January 20.

24.—*Case of Tuberculosis of Kidney Without Marked General Symptoms. J. M. DaCosta.
25.— Lantern Demonstration of Origin, Development and Degeneration of Blood-vessels of Ovary. John G. Clark.
26.—*Absorption of Iron from Gastrointestinal Tract, and Dietetics of Anemia. John C. Hemmeter.
27.—*Outline of Principles of Malpractice as Related to Medicine and Surgery. Wm. C. Woodward.
28.—*Athetosis and Kindred Affections. Frank Fischer.
29.— A Pneumatic Sigmoidoscope. William V. Laws.
30.— Creolin-Poisoning. E. W. Pressley.

Medical Review (St. Louis, Mo.), January 20.

31.—*Surgical and Pathologic Features of Tuberculosis of the Esophagus, with Reports of Two Autopsies. Willard Bartlett.

Northwestern Lancet (St. Paul, Minn.), January 1.

32.— Clinical Lecture. A. MacLaren.
33.— Rubber Gloves in Surgery. G. G. Eitel.
34.— Antitoxin. O. W. Archibald.
35.— Inflammation of Middle Ear and Sequelæ. Thos. McDavitt.
36.— Arteriosclerosis. W. F. Smith.

Medical Fortnightly (St. Louis, Mo.), January 1.

37.— The Hymen. Byron Robinson.
38.— Peculiar Case of Poisoning by Potassium Iodid. E. A. Crain.
39.— Nosophen; Its Use in Neglected Cases of Chancroidal Adenitis. T. A. Hopkins.

Maryland Medical Journal (Baltimore), January.

40.— Recent Advances in the Study of Tuberculosis. Wm. Royal Stokes.
41.—*Home Treatment of Consumption. William Osler.
42.—*Night Air of New England in Treatment of Consumption. C. S. Millet.

Medical Dial (Minneapolis, Minn.), January.

43.— Diagnosis of Diseases of Rectum and Anus. C. M. Ferro.
44.—*Advertising in the Medical Profession. Charles T. McClintock.
45.— Congenital Rectal Occlusion the Result of Maternal Impressions. C. E. Worthington.

Cleveland Medical Gazette, December, 1899.

46.— Some Thoughts on Pelvic Disease in Women, Resulting from Injuries during Parturition. Edward S. Stevens.
47.— Pus in the Pelvis. Herman E. Hayd.

Kansas City Medical Index-Lancet, January.

48.—*Inflammation. Jabez N. Jackson.
49.— Laryngeal Stenosis. Clay S. Merriman.
50.— Prevention of Consumption. G. L. Richards.
51.—*Use and Abuse of Hydrochloric Acid and Pepsin in Diseases of the Stomach. F. W. Froehling.
52.— Report of Case of Puerperal Infection, Complication and its Treatment. F. S. Clinton.
53.— Neurasthenia. John Punton.

International Journal of Surgery (N. Y.), January.

54.—*Flat Foot and Hallux Valgus. F. A. Goodwin.
55.— Regional Minor Surgery. George G. Van Schaick.
56.— Treatment of Fractures. W. L. Estes.
57.— Technique of Surgical Gynecology. Augustin H. Goelet.
58.— Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. Ferd C. Valentine.
59.—*Surgical Treatment of Diphtheritic and Membranous Croup. S. L. Kilmer.
60.— Two Cases of Fracture of Olecranon in Young Persons, Difficult of Diagnosis. Calvin F. Barber.
61.— Ovarian Cyst: Ovariotomy. Cancer of the Cervix: Vaginal Hysterectomy. Uterine Fibroid: Abdominal Hysterectomy. Matthew D. Mann.
62.— Compound Fracture of the Inferior Maxillary Bone. G. V. Bush.
63.— Extemporaneous Splinting: A New Method. E. A. Tracy.
64.— Subcutaneous Nailing or Wire Suturing of Ununited Fractures. W. L. Hughlett.

Pacific Medical Journal (San Francisco), January.

65.— Some Observations on Continence as a Factor in Health and Disease. P. C. Remondino.
66.— Large Fifty-Pound Ovarian Cyst with Ascites; Operation; Recovery. E. H. Smith.
67.— Principles of Diet in Gastric Diseases. A. W. Perry.

Medicine (Chicago), January.

68.—*Secondary or Membranous Cataract. Henry D. Noyes.
69.—*Serious Heart Disease Without Rheumatism: A Further Report. A. L. Benedict.
70.—*Nursing in Lying-in Period. Gustave Kolischer.
71.—*Spondylitis Deformans, Spondylarthritis or Osteoarthritis of the Spine. O. M. Steffenson.
72.—*Some Considerations in Sugar-Testing, with Description of a Method for Detection and Estimation of Sugar in Urine. Arthur R. Elliott.
73.—*Study of Aural Vertigo. Lewis S. Somers.

Seaboard Medical and Surgical Journal (Norfolk, Va.), January.

74.— Sexual Functions of Male and Female. J. Emmett Sebrell.
75.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
76.—*Local Anesthesia in Major Surgery. Kirkland Ruffin.
77.— Eulexin in Treatment of Diabetes Mellitus. Lucien Lofton.
78.— Progressive Procedures in Bone Surgery. James N. Ellis.

Carolina Medical Journal (Charlotte), January.

79.—Is Honesty the Best Policy in the Practice of Medicine? F. Julian Carroll.
80.—*Multiple Synchronous Amputations. R. L. Gibbon.
81.—*Diet in Lithemia. A. B. Conklin.
82.— Appendicitis; Necrosis of Tibia; Epilepsy. Wm. L. Rodman.
83.—*An Unusual Case. K. G. Averett.

Yale Medical Journal (New Haven, Conn.), January.

84.—*Case of Dynamic Ileus. Leonard W. Bacon.
85.— Two Cases of Resection of Stomach for Carcinoma. B. Farquhar Curtis.
86.—*Remarks on Recent Methods of Treatment for Aortic Aneurysm. William F. Verdi.
87.—*Some Observations on More Common Forms of Sexual Impotence. Ernest D. Chipman.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), December, 1899.

88.— Conservatism in Medicine and Surgery. Frederick W. Robbins.
89.—*When and How Shall We Operate for Uterine Fibroids. W. P. Manton.
90.—*Sympathetic Ophthalmia. M. R. Beaudoin-Bennett.
91.—*Tuberculosis of Peritoneum. Hal C. Wyman.
92.—*Contagiousness of Pulmonary Consumption. Ernest L. Shurly.
93.—*Survey of Modern Therapy. Frederick McD. Harkin.
94.— Case of Hip-Joint Amputation by Wyeth's Bloodless Method. R. B. Baird.

Atlanta Journal-Record of Medicine (Ga.), January.

95.—*Physiologic Therapeutics of Reasoning Madness. C. A. F. Lindorme.
96.—*Some Notes on the Philippines. Frank S. Bourns.
97.—*Diet in Lithemia. A. B. Conklin.
98.—*Painless Application of Arsenical Paste. William Perrin Nicholson.

Railway Surgeon (Chicago), January 9.

99.—*Conservatism in Surgery. Ben Thompson.
100.— Empyema. D. C. Brockman.
101.—*Eczema Complicating Wounds. J. Schneck.
102.— Four Cases Illustrating Various Serious Types of Fracture and Traumatic Amputation. Thomas H. Manley.

Journal of Medicine and Science (Portland, Me.), January.

103.—*General Remarks on Prolapsus of Rectum in Children. Charles Greene Cumston.
104.— Brief on the Two Most Important Surgical Diseases of Children. Herbert F. Twitchell.
105.— Relation of Physicians to the Drug Habit. Harry M. Nickerson.
106.— As Told to the Doctor. Arthur F. Sumner.

Chicago Medical Recorder, December, 1899.

107.— Vesicorectal Anastomosis. Jacob Frank.
108.— Urethroplasty in the Female. L. L. McArthur.
109.—*Vaccination. A. M. Handshaw.
110.— Three Cases of Perineal Resection of Rectum for Carcinoma. A. E. Halstead.
111.— Tubular Stricture of Rectum. J. R. Pennington.
112.— Report of Case of Dermoid Cyst of Ovary Complicating Labor. H. F. Lewis.
113.— Case of Laryngectomy, with Exhibition of Patient Jacob Frank.

AMERICAN.

1. **High Myopia.**—From a review of the more important literature of the past few years, Bull concludes that the most careful and conservative authorities all advocate the operation of removal of the lens in high myopia in selected cases and under wise restrictions. Therefore, in all it is important to study the case and definitely determine the condition of the myopic eye, also to take into consideration the age and occupation of the patient and the demands made on his vision. The intraocular tension should also be carefully examined, as it is apt to be above normal, and a minus tension would arouse suspicion of serious disease of the fundus. The possible dangers from the operation are, in order of their importance and frequency, intraocular hemorrhage, detachment of the retina, secondary glaucomatous symptoms, and infection of the corneal wound of the iris. The third danger is not serious, as the tension is relieved by extraction of the swollen lens and the danger of infection is also reduced to a minimum by modern methods. A possible complication is anterior synechia at the point of entrance of the needle, but this should not occur if atropin is properly employed. Another possible complication is incarceration of the iris in the corneal wound or prolapse through the wound. The contraindications are: 1. Extensive degenerative changes in the retina and choroid. 2. Existing detachment of the retina. 3. Membranous opacities in the vitreous, indicating disease of the choroid and vessels. 4. Previous loss of one eye from any cause. 5. Loss of transparency of the cornea from previous inflammation. 6. Any form of contagious conjunctivitis, especially trachoma. 7. Advanced age of the patient. 8. A myopia of less than D 12. The indications are: 1. If the central vision of the myopic patient with the best possible correction by glasses, is not sufficient for the needs and social position of the patient, the operation is indicated, first on one eye and then on the other, if no contraindications exist. 2. If there are unmistakable evidences of a rapid increase in the amount of near-sightedness, true progressive myopia, and if the myopia is D 12 or more, the operation may be done under the previously mentioned restrictions. He believes there is no reasonable doubt that removal causes decided improvement of vision, and the wearing of moderate convex glasses after the operation is much less annoying than the wearing of strong concave ones before. He describes the technique in detail.

2. **Gonorrhea.**—Neisser concludes his paper on the dangers of gonorrhea to society, alluding to the arthritis, the morbidity which it produces, especially in women, the loss of time as shown by military statistics, the cost of hospital treatment, and especially the blindness which is a result of this disease, and the sterility. He thinks that by using all the means supplied us we can lessen, to a very large extent, the ravages of the disorder and make its most serious consequences milder. The first step is to let the public know and appreciate the danger.

3. **Psychopathic Hospital.**—The psychopathic hospital of Giessen is described by Peterson, and he dwells on the needs of such an addition to our teaching institutions, and as furnishing the acutely insane the advantages that sufferers from other diseases have in the way of early diagnosis and immediate and skilful treatment.

4. **Diuretics in Renal Dropsy.**—Axtell discusses the pathology of the action of diuretics in renal dropsy, calling attention to their dangers and uses. He enumerates the various stimulating diuretics and gives their effects.

5.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1293.

6. **Abscesses of Frontal Ethmoidal and Sphenoidal Sinuses.**—The case reported by Bryan presents some features of interest. One is the rapid appearance of the meningitis, which could not have occurred through the frontal sinus, but was caused by infection through either the ethmoidal veins or the lymph channels. The extensive destruction in the posterior ethmoidal cells and sphenoidal sinuses was notable, and he believes that had the sphenoidal disease been discovered in time, the patient's life might have been saved. It is next to impossible to diagnose abscesses in this region when the symptoms are obscure. The only positive evidence is the choking of the optic disc, when associated with a postnasal secretion and occipital headache.

7. **Heroin.**—In the conclusion of Manges' paper he discusses Medea's investigations and gives a tabulated statement of 341 cases in which this drug was used in various disorders, as learned by him through correspondence; he adds seventy-five cases in his own service at the Mt. Sinai Hospital. He does not attempt any special analysis, but briefly notes the results in the different affections. The percentage of failure of the drug in the wide range of disorders was 21, which he thinks is a very small showing. When the relief of cough is the only object, he finds a very high percentage of good results, 84 in his own cases and 89 in those reported by Stubbert. Bad effects only amount to 11 or 12 per cent. In acute bronchitis, heroin acts well, relieving cough and improving general conditions. In chronic bronchitis, the results are not so constant, though favorable as a rule. In bronchiectasis, the results are similar to those observed in chronic bronchitis. In pleurisy, the number of cases (5) was small. In acute pneumonia, the results were gratifying, the cough was usually controlled and comfort increased. In pulmonary phthisis, acute and chronic, heroin finds its largest field and is distinctly superior to codein in most cases and to morphin in many. It does more than simply allay cough, it stimulates respiration, relieves dyspnea, promotes sleep, frequently lessens and prevents night sweats, and at times even reduces temperature. In pulmonary emphysema and bronchial asthma, it is distinctly superior to any other drug thus far used. In influenza, it is valuable in allaying respiratory symptoms. Whooping-cough has been favorably influenced; the paroxysms were shortened in twenty-five out of thirty-three cases. In a case of distressing cough from abscess of the liver rupturing into the lung, it gave wonderful results in relieving the patient as long as life lasted. In cardiac and renal asthma he has had good effects, though it is inferior to morphin. In diabetes mellitus the results have not been satisfactory. In two cases the value of the drug in breaking up the morphin habit was shown by most gratifying results, and the author believes it worthy of a more extended trial for this purpose. For relieving pain, it is inferior to morphin. As regards after-effects, he has found disagreeable symptoms in only a very small percentage of cases, and with large doses, 1/6 gr., and they are decidedly less than after morphin and codein. The principal disorders have been constipation, nausea, vomiting, dizziness, etc., none of them serious, but his reports are not full or uniform in this regard, so he can not give exact statistics. He does not think the controversy as to the toxicity of heroin entitled to much notice, as the effects reported on dogs are so manifestly exaggerated and based on so few facts. It is well to remember, however, that heroin is a derivative of morphin and should be used with the discrimination and judgment required in the employment of all sedative drugs. Habituation has been noticed in 6 or 8 per cent., without the bad effects accompanying the morphin habit, none of the patients having suffered from it. On the other hand, a large number of reports refer to the fact that the same dose may be used for a long time without any habituation.

8. **Cholelithiasis.**—Davidson's paper is a general discussion of the subject and points out the medical and operative treatment. One case is reported.

9.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1230.

10. **Diarrhea.**—This article is a brief discussion of diarrhea in children. The author points out that in the majority of cases the following indications are to be met: 1. A thorough cleansing of the intestinal tract, which he has always obtained by either small doses of calomel frequently repeated, by castor-oil, or by enteroclysis, if the cause was determined to be in the lower bowel. 2. Rest, by abstaining from food for at least twenty-four hours, or allowing only the easily digestible and non-irritable substances, such as albumin-water, peptonized milk, etc. Opium is a harmful drug in a majority of these cases. 3. Correction of improper food, which in children is found to be the most frequent cause of diarrheal conditions.

11. **School Life and Vision.**—Callan thinks that the children in school have at present too much to do, and that there is an injury to their sight thus being produced. He has examined 500 colored children, selecting them because he knew that these influences had not acted on their parents, and therefore there would be no tendency to myopia, and he found in the more advanced, 3 per cent. of near-sightedness.

13. **Elisha Bartlett.**—Osler's article, which is not completed in this issue, is an interesting account of the career of Dr. Elisha Bartlett, a native of Rhode Island, and probably the most distinguished physician of the state, but one who has not thus far left any deep impression on its local history or institutions.

15. **Modern Military Wounds.**—LaGarde compares the results of experiments with the modern military rifles and the practical experience in the Spanish-American War. The results of experimental work in the Frankfort arsenal are taken up in detail, and the field observations stated in direct connection with them: 1. The experimental evidence showed that shock impressed on a member increases with the velocity, whether a bone is traversed or not, always greater with leaden projectiles. The diminution of shock has been one of the objections to this modern bullet. It has been stated that a wound would not suffice to throw a man *hors de combat*. Whether this is true of savages or horses in a cavalry charge or not, it was not true of soldiers in the Spanish-American War, who, on receiving a wound, with but few exceptions, went to the rear. 2. Explosive effects at very short range are about the same for the two projectiles, but continue for a longer distance with the smaller bullet. But one case approaching explosive effects was observed in Cuba, and this is probably due to the fact that when these occurred the cases were fatal and could not be studied by the surgeon on the battlefield. 3. The slight wounds of the soft parts caused by these modern bullets and their favorable course in healing was borne out by the Santiago campaign. 4. No cases of alarming hemorrhage were observed. 5. It was found that the Mauser bullets produced less comminution of the shafts of the long bones in both experiments and in the campaign. 6. Beyond the zone of explosive effects, the hard projectiles almost invariably perforate or gutter the joint ends of the bones, and the lesions of the articulations are never so grave. This tallies exactly with experience in Cuba. LaGarde does not recall a formal excision for the mechanical effects of the Mauser bullets, though there were many cases of gunshot injury. There were at least twenty cases of injury to the knee-joint alone, which were immobilized and sent North, and, so far as heard from, have done well. The results are in striking contrast with those of the large leaden bullets. 7. The projectiles of hard exterior lodge less frequently in the tissues than the old leaden bullets. The experience in Santiago showed a surprisingly large number of lodged bullets, much greater among the Americans than among the Spanish. LaGarde accounts for this by the fact that the Spanish bullet wounds in the Americans were mostly at long range. 8. The old leaden bullets more often leave fragments of lead in the wounds. This needs no contradiction. 9. The new projectiles are less liable to carry foreign substances into the wound, which is also proved by experience. 10. The frontage of the jacketed bullet being less and the fact that it does not lodge often contribute to increase the percentage of recoveries in gunshot wounds of the lungs, which was found especially true. As a rule the wounds of the lungs were apparently so trivial that it was difficult to restrain the men in a recumbent position. 11. Owing to the diminished frontage, the new bullets will cause less disfigurement in facial wounds. This was found especially true in three officers, two of whom were not particularly good looking before the accident, but were improved by it. On cosmetic grounds the new bullet has some recommendations. 12. The projectiles of hard exterior are more humane than the old. Resection and amputation will not be so often required hereafter. In point of economy, it has a great advantage. All this is in accordance with Cuban experience. There were but three primary amputations, and not one of them was done for injury by the small bullets, but all for shell wounds. From these results LaGarde believes that we should consider the work of the experimental investigation as agreeing with and foretelling the conditions found in war.

16. **Otitis Media in Infancy.**—Pomeroy reviews Ponfick's statistics of otitis media in children, and insists on the importance of examinations of children's ears in nearly all disorders. Five cases are reported. In regard to the technique of this examination, the utmost endeavor should be made to get the best possible light—artificial—with the head mirror and an assorted nest of specula, and the ear of the infant, being different from that of the adult in the shape of the external auditory canal, should be drawn downward and outward instead of backward and upward, and if the external canal be obstructed by dirt, cerumen, or anything else, it should be carefully washed and the effort at examination resumed. Nothing but long-continued practice will suffice to give one a definite idea of the appearance of the tympanic membrane either in health or in disease, but the practice should be persisted in, for there is nothing about it to prevent any practitioner with eyes becoming as expert in this examination as the most cultured aurist. The fact should be reiterated again and again, that in very many cases there is no abnormal appearance to the exterior of the tympanic membrane, and yet the middle ear may contain pus and be the source of a toxemia threatening the life of the patient. It is important also to remember that an incision made carefully in the lower posterior quadrant of the tympanic membrane is wholly free from danger, and will frequently reveal a case of grave disease and at the same time be the means of almost instant relief. Thorough cleansing of the ear and douching it with sublimate solution should be done before the puncturing, and ether or chloroform anesthesia induced for a thorough examination.

17.—See abstract in THE JOURNAL of January 20, p. 166.

18. **Ectopic Gestation.**—Wright reports three cases of extrauterine pregnancy operated on, the patients all making good recoveries. He says that it makes very little difference how thoroughly we may be "read up" on the subject, there is considerable doubt about taking active measures in these cases. The authorities leave out just enough of the important symptoms to make us doubt the diagnosis. Again, one of the very prominent symptoms is not mentioned, as far as he has observed, namely, the odor of decomposition that accompanies the vaginal discharge and suggests miscarriage with retained placenta. Still again, authorities speak of the clot of blood making itself prominent, as though it were present from the first, whereas it is 48 to 72 hours before any distinct mass can be defined.

19. **Comparative Statistics of Appendicitis.**—Cox criticises the medical statistics of appendicitis, especially noticing those of Sahli, and reports several cases illustrating the value of operation and the untrustworthiness of medical statistics. He thinks that the medical figures report only cases that recover from attacks, without regard to their recurrence, and at the expense of surgical statistics in that they exclude cases that have gone so far under medical treatment as to be hopeless with surgery. Medical treatment, he thinks, with our present knowledge of the disease, is useless, except as an adjunct, one attack of appendicitis making another almost certain. He also thinks that operation in the quiescent period is a safe measure, especially because we can leave the abdominal wall in good condition after it is done. This is a very important consideration.

20. **Inversion of Uncut Appendix.**—Noticing recent articles in reference to the inversion of the appendix as advised by Edebohls and Dawbarn, Baldwin adopted the suggestion and has practiced it now in considerably more than 100 cases. He finds that his technique is quite different from that of Edebohls, and describes his method at length: The appendix is freed from adhesions if present, and brought up into view in the usual way. The tip is held by the assistant with one hand, while with the thumb and forefinger of the other the colon is supported just below the origin of the appendix. With a ligature carrier, a catgut ligature is then introduced at the base of the appendix, so as to include the meso-appendix, care being taken to embrace the small artery that runs along close to the appendix. The meso-appendix is then ligated, the ends of the ligature being left long. With scissors, the meso-appendix is severed just beyond the ligature, and the tissues constituting it are then seized, either with fingers or forceps, and stripped off from the appendix from the base to the tip. This is usually accomplished with a single effort, but occasionally they will have to be removed in pieces. Not infrequently, and quite usually, when operating on an acutely inflamed appendix, great thickening of the peritoneal and muscular coats will be found present. These coats will be so infiltrated that inversion is impossible. In such a case a longitudinal incision can be easily made with either knife or scissors, cutting through these two coats down to the mucous membrane. This having been done, the thickened coats are very easily peeled off, leaving merely

the mucous membrane intact, which is so thin and soft as to offer slight obstacle to inversion. Not infrequently, however, the distal extremity of this mucous membrane tube is obliterated as a result of previous inflammatory attacks. In such an event the obliterated end must be snipped off with scissors before proceeding to the next step. Care should be taken, however, not to open the lumen of the tube. The appendix having thus been prepared for inversion, the tip is seized between the thumb and forefinger of one hand and inverted by pressing on it with the blunt end of a patent-eyed needle. The maneuver is accomplished by a manipulation somewhat similar to that employed in putting an angle-worm on a hook. The tip having been thus inverted for about the length of the needle, an inch or more, the needle is removed and an ordinary long probe substituted. With this the inversion is completed in an instant. If, as the probe is being introduced into the colon, carrying with it the appendix, it meets with a fold offering obstruction, it should be withdrawn and the rest of the inversion completed with the fingers. This is accomplished without any trouble. Inversion now being complete, one end of the ligature previously used is threaded into the needle with a single stitch taken across the opening into the bowel, which marks the point of disappearance of the appendix. If it seems desirable, two stitches can be taken. The catgut is drawn through until the stump of the meso-appendix is brought up against the opening, and then by tying the two ends, the operation is completed. Only in a very few cases were conditions found which rendered inversion impossible or inadvisable. These were mostly cases of gangrene or of a tight constriction near the base. In only one has he had the chance of investigating the post-operative appearance of the appendix, which showed it much softened and rapidly breaking down, while healing seemed to be complete at the site of operation. He believes that it usually sloughs off promptly, or possibly undergoes a species of digestion.

21. **Failure of Antitoxin.**—Herman's article, like a previous one, noticed in THE JOURNAL, is an attack on serum treatment, especially diphtheria antitoxin. He tries to show also by statistics, that intubation is not more effective than tracheotomy, and that they are both more fatal in antitoxin-treated cases. He rails against dogmatism in medicine, but is decidedly positive in his own statements.

22. **Overworked Children.**—Wetmore considers children at school, whose physical development is not properly attended to. Her article is a plea for proper direction of the education of the young at the critical age, as a better preparation for the later vicissitudes of life.

23. **Gynecology and Gynecologists in Europe.**—Brothers' article is an account of his observations with French, German and English gynecologists and his professional experiences abroad.

24. **Tuberculosis of the Kidney.**—The case which forms the subject of DaCosta's clinical lecture is one in which the symptom of pain alone existed. It shows how a serious disorder may exist and hardly reveal itself. It also shows the importance of careful systematic examination of the urine. He does not think that the prognosis is a favorable one.

26. **Absorption of Iron.**—Heumeter shows that iron is absorbed in various preparations, and that it is not necessary to use organic compounds. In his opinion, the object to be accomplished is not to get as much iron as possible into the system, but just the right quantity, and for this purpose the Blaud's pill and chlorid of iron are as effective as any other preparations.

27.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1295.

28. **Athetosis.**—Fischer reports a case of athetosis occurring in a boy of 12, after rheumatism, and its successful treatment by arsenic. This suggests to him the relation of this condition to chorea, and he discusses its pathology. He concludes that it is a reflex cortical disorder primarily due to sensory disturbances.

31. **Tuberculosis of the Esophagus.**—The case reported by Bartlett is one of chronic lymphatic tuberculosis, with miliary tuberculosis of the liver, tuberculosis of the spleen, tuberculous pneumonia and peritonitis, and secondary ulceration into the esophagus, the result of a tuberculous destructive process in the peribronchial lymphatic node. He thinks that the esophagoscope should be employed in every case of pronounced general lymphatic tuberculosis. As all portions of the esophagus are shown, by the reports that we have, to be amenable to surgical treatment, he suggests that tuberculous disease might also be treated this way.

41.—See abstract in THE JOURNAL of Nov. 25, 1899, p. 1360.

42.—Ibid.

44.—See THE JOURNAL of January 27, ¶ 35, p. 223.

48. **Inflammation.**—First noticing the non-infectious inflammations, Jackson proceeds to describe those due to infection, and gives the indications for each form. Incision, free drainage, curettement and excision, antiseptic irrigations or packing are the surgical resources in staphylococcic inflammations. In streptococcic inflammations, free multiple incisions and natural drainage offer the most advantage, but the use of hot water, causing what he calls forced drainage, is also essential, as bringing the germs to us which we were heretofore unable to reach.

51. **Hydrochloric Acid in Stomach Disease.**—Froehling first notes the unsystematic and reckless prescription of acids and pepsin, etc., that has been practiced, and gives his theory of the rationale of the action of hydrochloric acid, which he considers as a stimulant to the secretion and motor functions of the stomach, while also having some direct effect on the digestion. We do not supply the full amount required for digestion, but the small amount which we do give acts in the above ways. He begins, as a general rule, with a dose of 15 drops, and finds out by means of the stomach-tube how this dose acts, repeating the examination several times if necessary. As all these patients require stomach washings, these examinations are easy. As a rule he finds it necessary to give from 10 to 20 drops at an hour's interval after each meal, until 30 to 60 drops are taken in cases of deficient normal acidity. Pepsin, he thinks, is not a useful drug.

54. **Flat Foot and Hallux Valgus.**—Goodwin pleads for more careful examination of patients, especially in orthopedic surgery, and discusses the mechanism of and technique of the operations for flat foot. He thinks that the use of a proper shoe will be an important element in the prevention of the condition, and as regards well-developed cases, Whitman's method comes into play. If we can restore the normal condition by replacing the dislocated bones without a cutting operation, it is good, but it requires anesthesia. The technique is described, as are also the orthopedic appliances required.

59. **Surgical Treatment of Diphtheria.**—First speaking of the disadvantages of intubation from possible plugging of the tube, Kilmer mentions the advantages of tracheotomy in operating through healthy tissues, and the easy means of clearing the tube. He mentions a method which he has employed in emergencies. He has a trocar made to fit the ordinary tracheotomy canula after removing the tube, and with this he punctures through the skin and underlying tissue, the puncture being distended and kept from bleeding by the pressure of the canula. After penetrating the trachea between the rings, the trocar is removed, the canula pushed in its position, the inner tube inserted and the operation completed in the usual way. With this method, he has been able to perform tracheotomy in less time than it takes to describe it, without the loss of a drop of blood.

68. **Secondary Cataract.**—The subject of secondary or membranous cataract and its treatment are discussed by Noyes, who describes the condition, the indications for operation and the technique. He illustrates a new knife-needle which he employs, and is prepared to say that the operation through the sclera with this instrument is practically devoid of serious risks and can be commended for general adoption. He took it up with some timidity, until experience convinced him of its value. He concludes by saying that one may sometimes refrain from secondary operation when the patient's circumstances are such that the highest vision is not required, or he is satisfied with what vision remains, or is too timid to willingly undergo operation.

69. **Heart Disease Without Rheumatism.**—Benedict reports several cases of endocardial disease of unknown origin, and remarks on its possibility. He thinks that almost any germ or inflammatory irritant which may cause inflammation of the joint under certain circumstances, may invade the endocardium and produce valvular defects.

70. **Nursing in Lying-in Period.**—Kolischer calls attention to certain points in the nursing of the puerperium. If ergot does not act well when given by the mouth, he says it should be administered by the rectum in aqueous solution with a small quantity of glycerin. Micturition is usually watched too anxiously by the attending physician, and the catheter should not be used too early. Warm poultices and gentle pressure to stimulate the organ should be first used. Frequently an erroneous diagnosis of cystitis is made, where there is simply desquamative catarrh, which is usually recovered from without local treatment, and this is only necessary when the trouble is severe and pain excessive. The pelvic articulations rarely receive sufficient attention. If there is pain in the symphysis or in the sacroiliac articulations, or permanently in the thighs, some distortion of the articulations should be looked for, and a firm bandage applied to the pelvis, which gives comfort, immobilizes the joint, and prevents the accumulation of exudates and fibrinous deposits. Fissures of the areola of the nipples may be troublesome, and local applications be ineffective. The simplest and best method is actual cauterization, which is best done with galvanism, but when this is not possible a 4 per cent. chromic acid solution may be applied with a small brush. By this means a dry eschar is produced. In the diet of the puerperium, the intestinal tract should not be overloaded. Eggs are often used, but with habitual constipation and flatulence these often cause fermentation. In some cases bowel movements are hard to produce, and the faradic current should be used to stimulate the organ. A roller electrode is most convenient; the current should be moderate. In differentiating between atonic and hysteric bowel complications, the abdomen should be examined for hard nodules, which disappear and reappear. These indicate the neurotic nature of the trouble.

71. **Spondylitis Deformans.**—This paper is a brief account of this condition, with the report of a case. The author considers it incurable, and believes that remedies that build up the system should be used.

72. **Sugar in the Urine.**—Elliott redescribes a test for the detection of sugar in the urine, first published by him in the *New York Medical Journal* in 1894. He considers it to have special advantages in its stability, sensitiveness and accuracy.

73. **Aural Vertigo.**—This paper is a general treatment of the subject of aural vertigo, which the author believes to be connected with functional or organic changes in the semicircular canal, though it may have various causes.

75.—This paper has appeared elsewhere, and was abstracted in THE JOURNAL of January 13, ¶ 58, p. 99.

76. **Local Anesthesia.**—Ruffin recommends the use of distension of the tissues with sterile normal salt solution to obtund the sensibility, completing the anesthesia with cocain to the skin. He has operated by this method in a number of cases, one of resection of a rib, one of incarcerated femoral hernia, one of amputation of the arm where general anesthesia was contraindicated, and one of abdominal section. He thinks it is a method worthy of more extended use in many cases where general anesthesia is unadvisable.

80. **Multiple Synchronous Amputations.**—Gibbons refers to a case previously published, in which he performed and superintended synchronous amputations of both arms and legs, two operators working at once. The patient died seven days after the operation. He discusses the advisability and advantages of multiple amputations performed synchronously or in succession, and thinks synchronous operations justifiable when hemorrhage can not be controlled by ordinary means. It is, however, best not to be in too much of a hurry to resort to them. He finds, in Ashhurst's surgery, ten cases of multiple amputation, two of which were synchronous, and adds one more from the literature, all successful. He regrets that he could not have added his case and made an even dozen.

81. This paper has previously appeared elsewhere as an original; see THE JOURNAL of January 27, title, 104, p. 221; also title 97, below.

83. **Maggots in Vagina.**—The case reported is one of maggots filling the vagina, in a woman aged 65, occurring after a diarrhea in which she was helpless and neglected. She was relieved by warm carbolic acid solution.

84. **Dynamic Ileus.**—After noticing the literature of the subject, Bacon describes a case of ileus, occurring in a saloonkeeper; one-third of the small intestines was in a state of contraction, including eighteen inches in extreme contraction to the size of a lead pencil. The relief was by celiotomy and manipulation of the intestines. A second attack occurred from injudicious indulgence in sauerkraut, and was relieved by bromid of potash and chloral.

86. **Aortic Aneurysm.**—The methods especially mentioned are the use of wire and gelatin. A case is reported of the latter, in which some slight apparent relief was obtained, and autopsy showed adherent organized coagula covering the walls of the sacculated aneurysm.

87. **Sexual Impotence.**—The chief subject mentioned by Chipman is psychic impotence, relieved by the use of Winternitz' psychrophor, which is described. From his limited experience, the author holds that in the majority of cases the condition is one of hyperemia and hyperesthesia of the prostatic urethra and that in a large percentage the prognosis is unqualifiedly good.

89. **Operation in Uterine Fibroids.**—Manton would operate in all cases of symptom-producing fibroids. Other treatment, he thinks, is temporizing and futile, unless conditions, positive contraindicating are present. When myomectomy is impracticable, total ablation is the operation demanded. The questions of technic are discussed, and the author protests against indifference and delay in this matter.

90. **Sympathetic Ophthalmia.**—Four cases of this disorder are reported, and the author enumerates the conditions under which he would perform enucleation.

91. **Tuberculosis of Peritoneum.**—The special point in this paper is the importance of hygiene, pure air and sunlight as adjuvants to the surgical treatment of peritoneal tuberculosis.

92.—See abstract in THE JOURNAL of Dec. 23, 1899, p. 1617.

93.—**Modern Therapeutics.**—The variations of practice of physicians in the treatment of diseases are noted, and the author sums up the therapeutic measures in which he thinks we can all unqualifiedly agree, as: 1. Hygienic measures of all kinds. 2. The so-called specifics: quinin in malaria, iodids and mercury in syphilis, thyroids in cretinism and myxedema, and antitoxin in diphtheria. To these he would add apomorphin in emotional and paroxysmal hysteria. 3. In a general way we agree on the value of sodium salicylate in rheumatism, iron in anemia, arsenic in some skin diseases or chorea, digitalis and strychnin in certain heart weakness, bromids in epilepsy, viburnum as a uterine sedative, and a few others.

95. **Therapeutics of Reasoning Madness.**—The idea of this paper is that the nervous system is restricted to the "scoring of the data of sense action" and that the red corpuscles of blood have a special psychologic function. The reader can estimate this for himself.

96. **Notes on the Philippines.**—According to the author of this article, the Philippines are fairly healthy for the tropics, and free from some of the most dreaded diseases. Intestinal troubles can be avoided by moderate care in hygiene. Malaria is general but more serious in certain regions. Smallpox has been epidemic, and leprosy is found in many of the islands and requires the attention of the authorities. Beriberi is at present epidemic. Tuberculosis, rheumatism and typhoid occur in about the same proportion as here. Venereal diseases are common; an especially virulent form of chancroid is more frequently met with than syphilis. Skin diseases are common, particularly the so-called dhobie itch, which attacked probably half the army, but is easily controlled, if taken early, by formalin. He thinks that when the condition of the country becomes more settled, Americans can live in comfort and enjoy good health, and some of the temperate highlands will prove valuable sanitariums.

97.—See ¶ 84, above.

98. **Painless Application of Arsenical Paste.**—Nicholson reports a case of removal of probably malignant tumor and the application of orthoform before applying the arsenical paste to the cut surface. The application was painless and recovery apparently perfect.

99. **Conservatism in Surgery.**—Thompson's article is rather extreme in its plea for conservatism in surgery.

101. **Eczema Complicating Wounds.**—Schneck sees, in the predisposition possessed by some individuals to eczema, a rever-

sion to the skin-casting tendency of some of the lower organisms from which we are presumably derived in the course of evolution. He asks: May we not expect that the manifestations of the skin known as eczema may be the result of normal physiologic processes?

103. **Prolapsus of Rectum in Children.**—Three cases are reported and the pathology and treatment discussed. Cumston would operate in acute types of prolapsus recti which are irreducible, with gangrene or obstruction, in all cases of chronic irreducible prolapse, to avoid future trouble and impairment of the health, and in reducible cases which can not be relieved by milder therapeutic measures.

109.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1230.

FOREIGN.

British Medical Journal, January 13.

Concussion of Retina. SYDNEY STEPHENSON.—The case reported is one of the condition described by Berlin, in which there is a cloudiness of a portion of the retina not involving the blood-vessels, reaching its height in twenty-four to thirty-six hours, and disappearing in two or three days. It is accompanied with some affection of sight, episcleral congestion, and a difficulty in getting the pupil to dilate from atropin. Berlin's theory was that rupture of the choroid was followed by bleeding and edema of the retina, but Denig has lately maintained that it is due to impingement of the vitreous on the retina, tearing the internal limiting membrane and following the vitreous into the nerve-fiber layer. The alternate elevations and depressions thus brought about in this layer are, in his view, the cause of the ophthalmoscopic appearances. Stephenson's patient was a boy who had been struck with a ball, and there was reduced tension, and at first contraction and later widening pupil.

Carcinoma of Ascending Colon and Its Treatment. W. MCADAM ECCLES.—Two cases are reported of carcinoma of the ascending colon. In one, death followed six hours after the operation; in the other, the operation was a double one and recovery followed. The author thinks that operation before the signs and symptoms of acute obstruction is comparatively safe. His method of dealing with the mass extraperitoneally is also of interest. In these cases, after exploratory incision and determination of the site of the growth, there should be a free opening, as it is better to risk a ventral hernia than to have an unremoved cancer. If the growth is movable and the intestine not too fixed, he believes that it is best to bring the intestine and tumor out on the surface of the abdominal wall and perform the excision at a later stage. If acute obstruction exists, this is certainly advisable and a temporary artificial anus should be made on the proximal side. When the growth has become so fixed that it can not be brought outside, it may be best to make an anastomosis between the ileum and the transverse colon near the hepatic flexure, and leave the excision till a later operation, when the passage of the intestinal contents has been fully re-established. Such cases, however, are not likely to be successful, as the adhesions imply advanced growth and infection of the lymphatic glands.

Lancet, January 13.

Malaria and Mosquitoes. G. BASTINELLI and A. BIGNAMI.—The authors discuss the facts as to the natural history of the malarial parasite and its habitation in man, and conclude that all three species adopt the same species of mosquito as their host, and preserve their distinguishing characters. A single infected mosquito is capable of inoculating malaria into several persons, and of producing a mixed infection. They have endeavored to study the relation between the time of infection and the local appearance of mosquitoes. They find that in winter only relapses of the different forms of malaria are observed, and as the season advances estivo-autumnal fever becomes more and more rare, until in the spring it is very difficult to find a patient with crescents. On the other hand, relapses of tertian and quartan continue through the spring until the beginning of the new season's malaria. It is possible that a primary infection of common tertian may occur in the spring, but the malarial season proper does not commence until the beginning of July and does not terminate until the end of autumn. By studying the laborers working in the malarial region near Rome, the authors find that they become infected with the estivo-autumnal fever at the end of July or the beginning of August, while the infected mosquitoes only begin to appear late in June. It seems, therefore, that the malaria endemic was due to infected mosquitoes that have become so from the relapsing patients, though it is difficult to see just how they obtain crescent parasites from relapses, apparently of the tertian fever. It is possible, however, that in some cases, crescents escaped notice. There are still, therefore, some questions to be solved. The practical conclusion, however, which they deduce, is that the treatment of the malarial patient ought to be carried on energetically early in the season, to prevent infection of and dissemination by mosquitoes.

Volkmann's Ischemic Paralysis; Treatment by Tendon-Lengthening. HERBERT W. PAGE.—The subject of Page's article is the ischemic paralysis described by Volkmann, and due to pressure on the muscular field rather than to nerve lesions. In his case he practiced lengthening of the tendon, and found that it produced decided benefit. He thinks it is the first case on record where this method has been employed for this special form of paralysis.

Hypothermia. E. B. HULBERT.—The author reports a case of a patient who died with symptoms of somnolence and coma, but without any gross lesions discoverable on post-mortem. The peculiar fact, however, was his temperature, which was observable for eighty-eight days, and in only eighteen did it register above 98.4 F. On the other hand, on several occasions it went down to below 90. At one time the minimum in one-half hour's exposure in the rectum was only 81.6, while the surface temperature of the chest wall was 75.5 F. He reviews the literature of the subject.

Diet in Typhoid Fever. R. W. MARSDEN.—The author gives the results obtained in 200 unselected cases of typhoid fever, with variations of the diet from that usually recommended and employed. He did not give a full diet. All patients receive milk only at first, and in mild cases without contraindications, on successive days, bread and milk with custard, fish with mashed potatoes, chicken, bread and butter and finally minced meat, remaining at this stage until convalescence was fully established, while in a severe case peptonized milk, with or without meat juice, etc., might have to be continued well into the period of convalescence. Slight rises of temperature or occasional irregularities of the bowels have not *per se* caused withdrawal of food. The patient's wishes, in the author's opinion, constitute a most important help, and he would add that his actions are an almost infallible guide. In no case was solid food forced on the patient. Taking up the different symptoms, he finds that diarrhea was absent throughout, in 61 cases. In 29, though it was present when fish was given, there was no interference with steady improvement, and in 107 in whom it was present at some time in the attack, though not when fish was given, there was not the slightest evidence of recrudescence. Considering the variability of the symptoms, he does not think we have evidence that careful dieting with solids acts in any way as an irritant to the intestinal mucous membrane. The percentage of hemorrhages—3 per cent. was rather low, and in no case was it fatal. There were no cases of perforation. In 180 of the 200 cases there was no evidence of any alteration in temperature from the food. Relapse occurred in 48; in 9 it was "spurious;" in 27 it was "true." This percentage—13.5—is by no means excessive, and he does not see the connection of relapses with the food established by these observations. He thinks that from a review of these 200 cases it must be concluded that a careful system of dieting, such as he has mentioned, has no injurious consequences, and when one considers the benefits obtained—viz.: more rapid recovery, diminished risk of surreptitious feeding with possibly harmful substances, lessened tendency to bolt food when allowed without proper mastication, and, finally, lessened tendency to asthenic complications, as post-typhoid anemia, gangrene, etc.—one must admit that there is no justification for resisting a craving appetite in the manner at present in vogue.

Annales de Dermatologie (Paris), November, 1899.

Centrifugal, Figured, Atrophying Hyperkeratosis. E. RESPIGHI.—Under this title Respighi describes an observation of what Mibelli calls porokeratosis, and asserts that the latter name is incorrect, as the lesion does not necessarily commence

at a pore of any kind, and does not necessarily have a groove. "The essential lesion is an imperfectly cornified, small, ring-shaped band which develops centrifugally, with an interpapillary canal slowly developing by centrifugal progression. The central area within the ring becomes more or less atrophied, with various depressions corked with the horny substance."

Bulletin de la Societe des Hopitaux (Paris), Dec. 28, 1899.

Radioscopic Differential Diagnosis of Broncho and Croupous Pneumonia. G. VARIOT.—The distinct unilateral shadow of croupous pneumonia is unmistakable, but radioscopy of bronchopneumonia is equally effective in the differentiation, although the indications it furnishes are much more delicate. They consist in a slight decrease in the transparency of the lungs, with the decrease most marked on the side in which the lesions are most advanced and most confluent. The edges of the shadow of the heart are also indistinct.

Journal de Medecine de Paris, January 14.

Mechanical Treatment of Sciatica. P. FRETIN.—"There is no other method of treatment which gives, so constantly, such favorable results as this when the patient has a certain amount of resignation and the physician a certain amount of skill and practice in mechanotherapy, patience, and confidence in the final success. The treatment is applied every day or every second day after improvement appears, for ten days to several months. The technic includes frictions, massage and vibrations of the nerve trunk; massage and kneading of the entire muscular apparatus of the member; passive extension of the sciatic nerve, and gymnastic movements of the lower extremities and of the trunk. The vibrations can be made with an apparatus. The entire member is first lightly frictioned with the vaselined hand, which soothes the pain, and then more energetic measures are applied, although it may be well to limit the first treatments to massage. Afterward each of the muscles that are painful to move is exercised in turn, with flexion, abduction, rotation, all with much patience, moderation and tact."

Presse Medicale (Paris), January 6.

Therapeutic Problem of Regeneration of Organs. P. CARNOT.—"Between the complete restitution of a resected segment of an organ, and cellular proliferation restoring functional balance, there are innumerable intermediate stages of what we call the regeneration of an organ. The lower the animal, the more complete the actual restitution. A resected claw may grow out again in a crab, while a resected kidney in man is only functionally compensated by the remaining kidney. The therapeutic problem of regeneration of organs is first to determine the more or less specific causes of cell multiplication. This problem, in spite of its importance, has never been formulated nor systematically studied before. But numerous observations of cell multiplication are on record and, with the writer's experimental research, have established that these causes may be either mechanical, toxic, infectious or physiologic." He mentions, among other instances of proliferation due to a mechanical cause, corns and an observation of Albarran's of an intense epithelial proliferation around some eggs of the Bilharzia in the bladder. The influence of toxic chemical agents on cellular proliferation is twofold: they stimulate, and then, in stronger doses arrest it. The substances which have the widest range in this respect, which stimulate with the smallest and require the largest dose to arrest cellular activity, are naturally best adapted to therapeutic application. Among these the compounds of iodin occupy the most prominent place of all substances tested. A fragment of liver grafted into the peritoneum of a dog, with a weak solution of cantharidin in acetone instilled at the spot, persisted in a most remarkable manner while the control grafts were all rapidly absorbed. The influence of infectious agents and their toxins on cell multiplication has long been noted: the rapid growth frequently observed after convalescence from typhoid and other fevers and the experimental epithelial proliferation after injection of weak doses of toxins into the circulation, besides hyperleucocytosis and cellular hyperproduction in the marrow and ganglia. Proliferation in this case has a more specific character. This or that toxin or microbe has a stimulating influence on certain cells and not on others; smallpox, vaccin and verrucous infections affect the cells of the epidermis; other toxins excite and then paralyze the nervous system, others the lungs, others the intestines. It might therefore be possible to stimulate the general proliferating power of the cells or, more specifically, the cells of the nervous system or of the alimentary canal, liver, pancreas, etc. The writer adds that he has in fact realized most interesting results in this line, particularly with typhoid infection and therapeutic sera, but further experiences are necessary before he can announce them. The fourth group of causes that determine the multiplication of cells is the *physiologic*. We know that after fecundation and during the entire life of the embryo the cells are stimulated to extraordinary proliferation. Experiments to determine the cause of this abnormally frequent proliferation were made with spermatozoa injected at different points, and also with the bodies of embryos in rapid development, to learn if there might not be some chemical substance in them which stimulates cell proliferation. The results are difficult to interpret, and further study is required, but the fact of a stimulation of cell proliferation is undeniable, and the impression was produced that this stimulation was specific and affected similar elements. In experiments with the yolk of egg introduced into the liver, the neo-vessels developed by the end of the second day, but the cicatrization, although rapid, was almost exclusively connective tissue. Danilewski recently called attention to the stimulating effect, on the general growth, of lecithin, which is so abundant in the body of the embryo. "This line of study should be followed further, as it promises to yield practical results." The more or less specific substance contained in the embryo is also found in the adult, as is evidenced by the success of organ therapeutics. Extract of the liver, for instance, is a physiologic stimulant to the liver cells, and it need not surprise us if it should also stimulate their proliferation. In a personal observation related, a woman with syphilitic cirrhosis of the liver and serious hepatic insufficiency was completely cured of the latter with liver extract, while apparently a new lobe developed. Others have seen the suprarenals increase in size under treatment with suprarenal extract, and the thyroid with thyroid treatment. It seems, therefore, to be established that the extract of an organ contains some substance or substances which stimulate the proliferation of the organ, and thus in organ therapeutics we already have a means of "therapeutic regeneration." Metschnikoff's latest research is based on this same principle of a "physiologic stimulant;" the utilization of the stimulating phase of histolytic sera. (THE JOURNAL of January 20, p. 189.) But it is a question whether there is a sufficiently wide margin between the dose that stimulates and the dose that destroys, to admit of their therapeutic application; also, whether this proliferating stimulation is much superior to that of the other stimulants mentioned above. An interesting point brought out in the course of the writer's research was that, as the function makes the organ, the functional secretions of a gland may stimulate its cellular proliferation. One kidney and a half of the other were resected in a dog; the remaining half proliferated rapidly until it attained normal size and function was re-established, when proliferation ceased. "There seems to be a very remarkable automatic regularization between the number of anatomic elements of an organ and the intensity of its functional activity in such cases. This law might be developed and utilized in therapeutics." The influence of nutrition on the proliferative activity is evident, but it is not alone sufficient to induce it. Local hypernutrition alone will never stimulate a cell to proliferate. The writer is now experimenting to see whether it is possible to determine and control the substance or product in neoplasms which stimulates them to such rapid growth. He concludes, from his research in general, that proliferation of the cells seems to be a reaction common to a large number of stimulating agents. Most of the reactions are too transient for therapeutic application, but there are some, more durable and more specific, which affect a certain kind of cells, and these we should study to bring under our control. This will be the more easily accomplished according as the regenerating and degenerative phases are more widely separated.

Archiv f. Exp. Pathologie (Leipsic), xliii, 3 and 4.

Effects of Antipyretic Drugs. L. KREHL.—The research of the writer and his pupils, who follow with two other articles on the subject, establishes that the action of the antipyretic substances in all probability extremely complicated, excita-

tion and paralysis blending in the strangest fashion in the most diverse cells. Quinin and the antipyrin group induce phenomena of paralysis in animals whose heat regulating apparatus is altered in consequence of some disease, and this paralysis leads to a diminution of the spontaneous heat. These facts should be applied to man, with due reserve, but the paralyzing properties of the antipyretics should be borne in mind at the bedside and induce caution in administering them.

Effects of Suprarenal Extract on Heart and Vessels. R. GOTTLIEB.—Experiments with the isolated heart of cats and other mammals showed that suprarenal extract had a direct stimulating effect on the frequency of the pulse and raised the blood-pressure, while the heart-beat was much strengthened. The extract, therefore, not only affects the vessel-walls but also the motor apparatus of the heart itself.

Centralblatt f. Chirurgie (Leipsic), January 6 and 13.

Amputation of Penis. H. LUCAS.—The stricture at the orifice of the urethra, which occurs so often after amputation of the penis, can be entirely prevented by saving and isolating 3 to 4 cm. of the urethra, drawing it out and turning it down all around over the stump of the rest of the penis, which subsides out of sight after the edges of the tunica and the corpora cavernosa have been sutured together all round. The turned-over urethra forms a circular roll projecting .5 cm. above the skin, to which it is sutured all around and to which it soon grows. In an observation related at length the subject urinates in a large stream and never soils his clothing. The operation dates from over a year, and there is no trace of a stricture. Another observation is added for comparison, showing the discomforts of the stricture, eczema and erysipelas that have followed the old methods of amputation. In case of carcinoma the glandular metastases are sought and removed at a second operation.

New Method of Treatment and Drainage in Generalized Peritonitis. F. BODE.—This preliminary communication describes the particularly favorable results obtained at the city hospital at Frankfurt a. M., by taking out the entire contents of the peritoneal cavity after a median incision, pelvis elevated, without regard to slight fibrinous adhesions, but under constant sprinkling of warm physiologic salt solution, poured from a china pitcher holding one or two liters. The intestines are wrapped in compresses moistened with the salt solution, and the warm solution is poured over them from time to time to prevent their chilling. Strange to say, instead of this procedure inducing collapse, on the contrary, the weak, rapid pulse becomes fuller, probably from diminished intraperitoneal pressure and removal of toxic substances. The perforation causing the trouble is easily found and sutured. The empty peritoneal cavity is thoroughly washed out with thirty to forty liters of the salt solution, with especial attention to the liver and spleen regions and the small pelvis. The fluid accumulating in the depressions is very gently mopped up with compresses, and when the cavity and the serosa of the intestinal loops have thus been cleansed of their suppurating secretions, the loops are replaced under continuous sprinkling with the salt solution. This is easily accomplished: the red and meteoric loops frequently contract with peristaltic movements under the influence of the salt solution. A loop about the center is then lifted; the mesentery stretched taut, and a slit made in it at a point free from vessels near the radix mesenterii. A long drainage-tube is passed through the slit, forming an arch as the loop is replaced, the ends of equal lengths passing through the peritoneal cavity and emerging through two new incisions to the left and right, just above the colon. The tube has a number of openings along the center. Besides this main tube, another is inserted in each side incision; a fourth in the lowest point of the median incision and a fifth in the liver, stomach or spleen region. The abdomen is then closed: the air left in the peritoneal cavity is expelled by pouring in more salt solution as the suture is progressing, leaving a considerable quantity of salt solution in the abdomen. The permeability of the main drainage-tube is also assured by sending a little salt solution through it, under slight pressure. The patient is put to bed with the head and shoulders raised, to send the fluid down near the drain-tubes, and the abdomen is rinsed out two or three times a day with 1000 to 1500 c.c. of the saline. "By this combination of rinsing and drainage it was possible to evacuate quite considerable quantities of pus from the abdominal cavity in seventy-two hours, without material discomfort to the patient. We frequently observed that the rinsing was followed immediately by increased peristaltic movements and passage of flatus, much to the relief of the patient, and amounting in some cases to slight diarrhea under the influence of the salt. There is nothing to prevent permanent irrigation through the main tube. Serious symptoms usually disappear by the third or fourth day, when the rinsing tube is removed and the drain-tube replaced, at first with smaller drains and then with loose tampons, and the openings finally closed. Generally speaking, the course of peritonitis treated according to this method was remarkably smooth and mild, convalescence extremely short, and the patient usually completely recovered by the end of three weeks. Similar irrigations, practiced on the cadaver with colored solutions, showed that the fluid penetrated to the remotest portions of the abdominal cavity, even under very adverse circumstances."

Deutsche Medicinische Wochenschrift (Leipsic), January 11.

Testing Tetanus Antitoxin: Its Application in Practice. E. BEHRING.—Reliable statistics to determine the efficacy of this antitoxin can only be obtained when the treatment is commenced not later than thirty hours after the recognition of the first symptoms of tetanus, and with a dose of not less than 100 A. E. (antitoxin-einheiten or units). Behring thinks that if the mortality is reduced to even 15 per cent., we should hail the antitoxin treatment as a great progress. In order to accomplish this it should be on hand in every hospital and every drug store, and it is now put up in 100-unit vials. "The main point is its early use, not increasing the dose." Behring has succeeded in producing an imperishable tetanus toxin by adding malachite green, natrium phosphate and toluol—and offers it to scientists at a low price in exactly the amount that is neutralized by 1/1000 antitoxin units, and, mixed and injected into a mouse, leaves the animal healthy. He hopes that this or something of the kind will be accepted for international control of the tetanus antitoxin, similar to the tests with diphtheria antitoxin. With this test Tizzoni's tetanus antitoxin is shown to be very weak. The Steglitz Institute for Testing Sera states that 700 c.c. or ¾ of a liter of the foreign antitoxin would have to be injected to obtain 500 Behring units, such as are contained in 50 to 100 c.c. of the Behring antitoxin. He disapproves of intravenous injections, and still more of intracerebral, but warmly indorses Tizzoni's method of subcutaneous ones as near the point of infection as possible. "There is scarcely any limit in respect to the amount that can be injected in a horse, but in man a single injection should never be over 20 c.c." In the most concentrated form—10 units to 1 c.c. of antitoxin—this would be only 200 units, and this he now considers the maximum amount, instead of 500 as he formerly announced. For prophylactic administration he considers 10 to 20 units fully sufficient.

Assimilation of Food by Newly-Born. H. CRAMER.—To determine the exact quantity of food most desirable for infants up to the tenth day after birth, Cramer instituted numerous series of observations, which have established that there is a certain quantity, which produces the largest increase in weight, and this optimum is the method of feeding which, with the smallest possible amount of food ingested, produces the largest increase in the weight. Strange to say, this optimum is almost exactly the same for breast milk and for cow's milk, as is seen in the table:

	Day.								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
Krueger's method	12 to 15	96	192	234	363	441	501	518	621
Schlesinger's method	0	80	160	210	320	360	460	490	
Breast milk	0	20	70	120	190	260	270	290	300
Cow's milk, 1:2	15	30	45	100	170	220	260	290	330

The infants fed by the first method only gained 5 to 10 grams a day, while in the two last series the physiologic development was attained, that is the loss of 230 grams after birth was made up by the tenth day, and surpassed. The proportion of the amount of food that appears in the increased weight with this optimum is 17.1 per cent. in breast-fed, and 18.9 per cent. in bottle-fed infants. In those fed by Krueger's method it was only 1 per cent. The importance of limiting the amount of food during the first ten days is urgently emphasized by these facts; which have never been systematically studied before, and neglect of them has undoubtedly led to many mis-

takes in the study of absorption and analysis of excreta in infants. The physiologic development of the infant with such a small amount of artificial food certainly indicates that the assimilation of the food, and especially the splitting of the nitrogenous substances, occurs as perfectly with cow's milk as with breast milk. Establishing the physiologic minimal amount will afford a reliable test for the actual value of artificial foods. Another point studied by the writer was the amount of force exerted by the infant in sucking. He found it much greater than generally assumed. Breasts, mechanically aspirated and the amount of resistance measured with the manometer, showed that a negative force of 58 to 140 cm. of water was required to obtain the milk in some cases, and this explains why infants go to sleep after nursing the breast, from fatigue. A nursing-bottle does not require more than 3 to 8 cm. negative force, and the milk is obtained in a small fraction of the time. This extreme difference between the labor of natural and artificial feeding may have an appreciable influence on the metabolism.

Muenchener Medicinische Wochenschrift, January 2 and 9.

Influence of Fluorescent Substances on Infusoria. H. v. TAPPEINER.—The Paramecium caudatum is destroyed in a one per million solution of phenylacridin in a few hours. Acridin is also poisonous in a lesser degree. Tests with the hanging-drop showed that equal parts of a 1 per 1000 solution of acridin killed it immediately; 1 per 5000 in thirty, and 1 per 10,000 in sixty minutes. But the astonishing fact was discovered that a 1 per 20,000 solution, exposed to the sunlight, killed the infusoria in six minutes; exposed to diffused light, in about an hour, while in the dark the infusoria were still alive after 100 hours. The sunlight alone has no destructive influence on the infusoria, and neither has the acridin solution alone. Tests with other substances showed that only the fluorescent have this singular property of killing in combination with sunlight, which develops the fluorescence, while they are harmless to the paramecium transferred to the dark. They are also harmless even in the light, if fluorescence is prevented. Further experiments established that the paramecium is not destroyed by the effect of the fluorescent light, but by the process which excites the fluorescence. O. Raab, who made the tests, believes that fluorescence is a transformation of the energy of the rays of light into chemical energy, similar to chlorophyl—"another highly fluorescent body"—only with the difference that this transformation is destructive to the paramecium, while in plants it is a vivifying process. The influence is probably not limited to the paramecium, and should be studied in the skin, cornea, blood and lymph serum, which are also slightly fluorescent. Fluorescence should also be studied in another direction, as possibly the ingestion of fluorescence-producing substances, combined with phototherapy, might produce unexpected results. Raab calls attention to the "hitherto mysterious affection that sometimes appears in light-colored sheep and swine after eating buckwheat on sunny days, possibly due to the formation of fluorescent substances out of the feed." "Therapeutics may yet benefit by fluorescence, as photography has empirically learned the value of eosin and other fluorescent substances for sensitizers."

Strange Influenza Eruption. RIEGER.—Two persons besides Professor Rieger himself, all residing on the same floor, after insidious manifestations of influenza, with a peculiar itching of the scalp and face, for some months, passed through a similar experience: a chill, high fever and a marked swelling of the entire scalp, the veins prominent and every appearance of a subcutaneous effusion, especially at the worst itching points which had been scratched thin and protruded beyond the rest, each at a sweat gland. This swelling lasted twenty-four hours, when the forehead became affected in the same way, "the scalp returning completely to normal after its water-bag appearance." After the forehead, the roof of the nose and the nose and cheeks were affected in turn, each region swollen separately for twenty hours and then returning to normal, with no scaling, nor erysipelatous inflammation. In four days the symptoms, including the fever, all passed away, leaving extreme depression and weakness, as usual after influenza. The swelling seemed to be restricted to the points directly over the bones.

Convulsions in Children. J. LANGE.—This address, read at the Congress of Physicians and Naturalists, goes over the same ground as the articles and discussions reported in the last volume of THE JOURNAL, but Lange warns against too small doses of the bromids: "We can tranquilly prescribe a teaspoonful every two hours, of a 5 per cent. solution of bromid, and with children over a years old a 'child's spoonful,' until the seizures are arrested." He also warmly recommends phosphorus for so-called idiopathic convulsions. In forty-eight or seventy-two hours, the most rebellious and inveterate convulsions are arrested, and if the phosphorus is kept up for a few weeks, they do not recur. This applies not only to rhachitic children but to those in whom the convulsions are induced by autointoxication or other causes. He is convinced that phosphorus has a direct antispasmodic action, and mentioned an experiment with a three-weeks-old dog, to whom he administered 0.002 phosphorus internally for six days, while the control pup of the same litter did not receive any phosphorus. Each dog was then injected with 1 mg. of strychnin. The phosphorized dog was only slightly affected and recovered completely in twenty minutes, while the other had most intense tetanic convulsions vomiting, etc., and was only kept alive with ether.

Hemorrhages from Endometrium in Sclerosis of Uterine Arteries. M. SIMMONDS.—The writer, who is prosector at Hamburg, states that he finds apoplexia uteri in every third or fourth elderly woman who comes to dissection, but that this condition is probably a pre-agonal process in vessels affected with arteriosclerosis. Curetting does not reveal arteriosclerotic processes in the endometrium but if other causes are excluded, in case of obstinate uterine hemorrhages, arteriosclerosis should be borne in mind and the organ removed as a last resort.

Application of Photographic Developers to Histology. SALGE AND STOELTGER.—The preparations were laid in a 0.5 per cent. solution of silver nitrate for three minutes and then, after rinsing in distilled water, transferred to a 5 per cent. solution of sodium iodid or bromid for one minute; then rinsed and developed with "amidol developer," the same strength as used in photography. The result was a "magnificent staining of the nuclei" with an elective stain for rhachitic bones, and remarkable differentiation of the osteoid substance of decalcified objects. This method of staining is a distinct advance, a special advantage being the superiority for photographic reproductions. If the stain is not strong enough, the process can be repeated as often as necessary. The photographic method of "strengthening" with uranium also proved another progress. Preparations thus treated acquired a handsome reddish-yellow tone, and proved particularly fine for microscopic study and colored projections. Lithio-carmin seems to be the best contrast stain for the merely silvered preparations, and methylene blue or water-blue iii, B, for the uranized.

Centralblatt f. Gynaekologie (Bonn), 1899, 5.

Treatment of Serious Interference with Birth Consecutive to Vaginofixation of Uterus. W. RUEHL.—The fetus in such conditions is pressed toward the promontory, the fundus is low, the cervix high, and as the small pelvis is bridged by the anterior uterovaginal wall, there is no room for the passage of the child. The writer has incised, in three such cases, the anterior lip of the cervix and the anterior uterovaginal wall, making an opening large enough to admit the hand, through which the fetus was easily extracted, with no injury to the mother, one living child. The uterus is then drawn out to the vulva and sutured at once. The chief advantage of this operation over Cesarean section is that it is extraperitoneal. Another advantage is the absence of danger from hemorrhage from laceration of the vagina from efforts to raise the uterus. In eight such cases in literature, treated with Cesarean section, 50 per cent. of the mothers died. "Correct vaginofixation, in which not the fundus but a lower part of the uterus is fastened to the vagina, will not interfere with later births."

Sore Nipples.

℞. Olei olivæ.....ʒiv
Lanolin
Petrolati, āā.....ʒiv
Acidi borici.....gr. x

M. Sig. Smear the nipples gently and cover with antiseptic gauze.

Societies.

Weber County Academy of Medicine.—The annual election of officers of the Academy, which was recently held, resulted as follows: president, George W. Baker; vice-president, John D. Carnahan; secretary, John S. Gordon; treasurer, S. L. Brick; librarian, G. W. Perkins.

Mercer County Medical Society.—*The following are the* newly-elected officers of this Society, chosen at the recent meeting at Greenville, Pa.: president, J. C. Bachop, Sheakleyville; vice-president, J. C. Weidman, Mercer; secretary, J. T. Shutt, Greenville; treasurer, F. G. Byles, Fredonia.

Dauphin County Medical Society.—This Society met in Harrisburg, Pa., January 17, and elected the following officers for the ensuing term: president, Marion Ulrich, Millersburg; vice-presidents, George B. Kunkel and W. E. Wright, Harrisburg; secretary, P. A. Hartman, Harrisburg; treasurer, E. H. Coover, Harrisburg.

King County Medical Society.—At the annual election held in Seattle, Wash., January 15, this Society elected the following officers: president, R. W. Schoeule; vice-president, J. H. Lyons; secretary, Chas. B. Ford; treasurer, Samuel J. Holmes. The business meeting was followed by the annual banquet at the Ranier Club.

Seaboard Medical Association.—The Seaboard Medical Association of Virginia and North Carolina met at Newport News, Va., early last month. Officers for the current year were elected as follows: president, Henry W. Lewis, Jackson, N.C.; first vice-president, Fletcher Drummond, Jarksley, Va.; second vice-president, M. Bolton, Rich Square, N. C.; treasurer, C. O'H. Laughinghouse, Greenville, N.C.; secretary, John R. Bagby, Newport News, Va.

St. Joseph Medical Society.—This Society held its annual election of officers, at its regular January meeting. The following were chosen: president, Jacob Geiger; vice-president, G. L. Sherman; treasurer, W. T. Elam; secretary, John M. Bell. A resolution deprecating the Gallinger antivivisection bill, now before Congress, was introduced and passed. W. T. Elam read a paper on "Internal Urethrotomy." He divides all anterior strictures (organic) with a probe-pointed scalpel, then keeps the track patulous by frequent sounding. He has never had any uncontrollable hemorrhage.

New York County Medical Association.—At the last meeting of this Association, a resolution was introduced by Dr. John T. Nagle, calling attention to the present status of acting assistant-surgeons of the United States Army, as compared with those of the navy, and asking that the delegates from the Association to the state association and also to the AMERICAN MEDICAL ASSOCIATION be requested to bring to the notice of these associations the good points of Senate Bill No. 1782, introduced into the United States Senate last month by Thomas C. Platt. The matter was referred to a committee for advisement. The bill is printed in our "Miscellany" columns, this week.

Chicago Academy of Medicine.

Jan 12, 1900.

CASE OF SYPHILIS.

DR. L. BLAKE BALDWIN showed a case of syphilis, in a male, German, unmarried, and 37 years of age. When seen on Nov. 4, 1899, there were four ulcers in the vertex, each 2 cm. or more in diameter. Over the right supraorbital ridge was an ulcer about 1.5 cm. in diameter. These ulcers were covered with a crust from 5 to 10 mm. in thickness. The entire nose was gone, as far back as the bony septum, the remaining portion being a crust barely 1 cm. in thickness. The left side of the soft palate was entirely destroyed and the right badly ulcerated. On the right arm was an ulcer about 1.5 by 2 cm. in dimensions. The right forearm, from above the elbow-joint to the wrist, on its extensor surface, presented an almost continuous ulcer. The left presented the same condition, excepting that the elbow-joint was not involved. Both thighs, on their external surfaces from the upper third to the knee, presented numerous ulcers. On the inner surfaces were several ulcers. The tibial surface of both legs from the knee-joint to the ankle was an almost continuous mass of ulceration. The calf of the left leg was covered with an ulcer which extended from the junction of its upper and middle thirds to near the ankle, and transversely to an extent nearly one-third of the circumference of the limb. The right great toe had on its extremity an ulcer which had progressed nearly to the bone. The second toe of the same foot was covered with an ulcer extending from the base to the tip. The discharge from these was exceedingly profuse and fetid. In addition to the areas of active ulceration, there were the remains of over eighty lesions on the man's trunk, none of them less than 1 cm. in diameter, and ranging in size from that up to half the size of one's hand. For the most part, these lesions had healed. All the eruptions had taken place within the previous fourteen weeks. The patient declined from 178 pounds to 90 within that time. He gave a history of chancres seven years previously, which had been cauterized, and after a few weeks' treatment he had been discharged as cured.

He was placed on the following treatment: Wet bichlorid of mercury dressings were applied to all ulcerated surfaces, excepting on the cranium, and ordered kept constantly wet, being renewed once in twenty-four hours. After the first week the wet dressing was applied to the head, a few days being required to remove the crusts and to stop suppuration. Internally he was given the pure juice, flavored with salt and pepper, from five pounds of beef, daily, and this amount was increased during the first week to that from eight pounds of beef. He was also given 40 gr. of iodid of potassium, t. i. d., the dose being increased to 15 gr. t. i. d., during the first week. Following the removal of the crusts and cessation of the suppurative process, the ulcers were dressed with Unna's emplastrum hydrargyrum mull. On the eighth day he sat up in bed to eat, on the tenth he walked with crutches, and on the fourteenth he walked to his meals unassisted. He now weighs 187 pounds.

MYCOSIS FUNGOIDES.

DR. BALDWIN also presented a Polish woman, 40 years of age, married, on whom, 11½ years ago, a pimple appeared on the left cheek, and gradually extended and spread over the nose, both cheeks and surrounded the eye, producing pronounced cicatricial ectropion and leaving white scar tissue in place of the normal skin. The process was painful and itched. From the face the lesion spread to the right side of the neck, where it remained quite stationary for about seven years. During the past three years the activity of the process has been revived, and it now completely encircles the neck, extending in front of the right ear on to the cheek for about 5 cm. in front of the inferior maxillary angle, and down the sternum as far as the ensiform.

Within the past year a separate lesion has appeared on the right breast, which now measures about 6 by 15 cm. A new lesion has appeared in the past three months, on the face, beginning as a pimple on the right cheek near the base of the nose and about 2 cm. below the right eye. From here it has extended to the bridge of the nose, in a mesial direction, and as far laterally as the corner of the mouth, and reaching from this point to the lower border of the right eye. The seat of this one is entirely on the location of the original eruption eleven years ago. A lesion has appeared within the past nine weeks, on the abdomen near McBurney's point, which now measures about 6 cm. in diameter. About seven weeks ago another appeared on the anterior surface of the right thigh, which now measures about 4 by 8 cm. in extent, and within the last three weeks two more lesions have appeared on the left inguinal region which now measure about 3 cm. in diameter. The later eruptions have the appearance of a fungoid excrescence, and are raised above the surrounding tissues from 2 to 5 mm. Looked at from above, they have the appearance of a cauliflower mass that has been tightly compressed together. For the most part the surfaces of the excrescences are quite flat and even; those on the abdomen are less so, and are sunken and irregular in the center. The older eruptions have a less elevation than the more recent, but all are distinctly elevated. The color of the later eruptions is a light red with a tinge of purple. The one on the face is more of a brown. They are firm to the touch. The ones on the thigh and the neck are very sensitive and painful; the one on the neck itches; the others

are not painful. About the margin of the eruptions on the abdomen is an area about 1 cm. in width and dark and angry-looking. About the one on the thigh this is less marked; and about the older ones still less so.

The original eruption on the face, eleven years ago, began as a black pimple, from which a history of but little discharge was obtainable. The eruptions on the breast, the thigh, and the abdomen began, in the patient's own words, as "small swellings having a covering like tissue paper," which broke with discharge of fluid. From time to time crusts have appeared which have dried up and fallen off. At present the application of an oily preparation seems to prevent their formation. There is little oozing. At times there is some fetor. The inguinal glands are not enlarged. The epitrochlear glands are not palpable. During the past two weeks there has developed anesthesia to touch and pain and some paresthesia in the ulnar region of the right hand, extending from the wrist to the tip of the ring and little fingers. There has developed, within the same time, tenderness with rheumatoid pains over the entire left tibia.

The patient has borne fifteen children, nine of whom are dead, and the others living. There is no history of any sore throat nor falling of the hair, nor any necrotic ulceration. The lesions have always appeared distinctly raised above the surrounding tissues. The husband came to this country 1½ years before the wife, but reveals no history of sore throat, falling of the hair, nor eruption of any kind. The patient was well-nourished, there being considerable excess of abdominal adipose tissue. She sleeps poorly on account of pain, and for the past six weeks has had little appetite.

Dr. Baldwin is inclined to believe that the case is one of epithelioma. The microscopic findings are these: Histologically, an epithelioma; atypical epithelial cell proliferation into the deeper tissues. Sections were stained for tubercle bacilli, but none found, though stained by thionin, methylene blue and the Klebs, and triple stained for protozoa; deeply staining bodies with hyaline rings in epithelial cell masses were probably protozoa. A few organisms were found with double contour.

DR. WILLIAM L. BAUM said the treatment of the first case presented had been very successful, and illustrated the necessity of treating these energetically. The diagnosis had been made some time before by the attending physician, and the patient had, at the time he saw the case with Dr. Baldwin, several healed spots.

The second case was interesting and instructive on account of its apparent rarity. The history, its long duration, the successive itching, followed by the gradual spread of the disease toward the periphery, and its fungoid-like character, bespoke for it the condition known as mycosis fungoides. As the essayist was giving a description of the case, Dr. Baum thought it doubtful as to whether lupus was present, but after the histologic examination, the appearance of the tumors, and the clinical history, he was led to believe otherwise.

[Here he passed around photographs from Kaposi, illustrating characteristic cases of mycosis fungoides, which differed materially in some respects from some of the published cases in this country.]

Mycosis fungoides can be divided into stages. In some cases eczema is the primary condition, followed later by the fungoid hypertrophies so characteristically shown in the patient exhibited.

As regards the blastomyces found in Dr. Baldwin's case, it was questionable in his opinion whether these were not entirely accidental infections. At the present time it has not been satisfactorily demonstrated that blastomycetic dermatitis is a distinct clinical entity, just as the case under consideration was not, strictly speaking, an epithelioma in its beginning, but became secondarily so and belonged to the atypical forms.

DR. EUGENE TALBOT asked in what percentage of syphilitic cases the bones of the face and jaws are affected.

DR. BAUM replied that in only a small percentage are there demonstrable lesions of the bones of the face, particularly in untreated and in those cases in which one mild measure of treatment had been carried out. Some of the bone lesions, i. e., necrosis of the maxilla, are caused by hydrargyrum stomatitis.

DR. DAVID LIEBERTHAL agreed with Dr. Baum in the diagnosis of mycosis fungoides in the second patient. He thought epithelioma could be excluded on account of the appearance of the lesions. In the center of the more recent eruptions there

was almost no visible infiltration, while the margins presented dense and prominent infiltration rings, a condition not usually observed in epithelioma. As to the case being one of atypical epithelioma, it is comparatively easy to account for this supposition, as the microscopic findings in cases of mycosis fungoides are misleading in many respects.

In reference to the presence of blastomyces in this patient, he is of the same opinion as he expressed after the first case of so-called blastomycetic dermatitis in Chicago was presented to the Chicago Medical Society by Drs. Hyde, Bevan, and Hektoen, viz.: that there is no such thing as blastomycetic dermatitis *per se*, but that blastomyces is found secondarily to previous lesions.

DR. HAROLD N. MOYER said the experience of the essayist thoroughly corresponds with his own in regard to the administration of large doses of the iodids. In nervous syphilis it is necessary to use large doses of iodid of potassium; it is bad practice to begin with small doses and work to larger ones. He has yet to see his first case of severe iodism from the administration of large initial doses of the iodids. In a case of cerebral tumor, in which he gave the patient a saturated solution, the dosage was so rapidly increased that the patient reached

750 grains in seven days from the beginning of treatment. Large doses have less effect both on the mucous membrane and the skin. He said that an explanation of the peculiarity of the iodids has been offered by a French writer—V. Cyon—who states that small doses of the iodin salts combine with certain products of the thyroid gland, forming iodothyrin, and this circulating in the blood produces constitutional symptoms. On the other hand, if large doses of the iodids are administered, they act as diuretics and are promptly eliminated by the kidneys in the form of soluble salts.

DR. BALDWIN, in closing the discussion, said that the secret of giving large doses of iodid of potassium was to give plenty of water. In reply to the question of Dr. Talbot, he said he had seen eight cases of syphilis in which there was destruction of the nasal bones from this disease.

NON-SYPHILITIC RESULTS OF SYPHILIS.

DR. J. J. QUIRK read a paper with this title, and said that some sixteen years ago, in a discussion of the relation of neuroses to syphilis, the claim was made by E. Fournier that syphilis does not produce true paretic dementia, but a symptom-complex mimicking that disorder, though distinct in type and therapeusis. This view was combated by Kiernan, who, at the end of an analysis of the evidence *pro* and *con*, pointed out that paretic dementia produced by syphilis does not necessarily differ pathognomonically in onset, in clinical progress and resistance to therapeusis from the non-syphilitic type.

Some ten years later Bannister advanced evidence to show that paretic dementia was a toxin disease. Hutchinson of London had advanced the view that certain irregular types of teeth were diagnostic of inherited syphilis. Eugene S. Talbot, after analyzing numerous reported and many observed cases, pointed out that the so-called Hutchinson teeth often arise from congenital conditions other than those of syphilis. Some eight years ago, in a paper read before the Chicago Academy of Medicine, G. F. Lydston pointed out that syphilis exerts an influence on the repair of surgical lesions.

Within five years after the discussion referred to above, Fournier abandoned the stand he had taken, and enunciated a now-generally-accepted view which is an application of the principle advocated by Kiernan. Hutchinson, after a more extended study, found that one-third of the cases of Hutchinson's teeth occur, as Talbot had pointed out, in non-syphilitic subjects. Since that time, while not generally recognized by the profession, or even by some syphilographers, non-luetic results of syphilis, or syphilitic dystrophies, have attained great importance, and frequently appear in the literature.

In essence, the non-syphilitic phenomena of syphilis are best illustrated in the influence of syphilis during the intrauterine periods, at the periods of stress, and the periods of involution—male and female, climacteric, senility, etc. Dr. Quirk dealt only with the periods of intrauterine life, and of evolution—dentition, puberty, etc. There are, he said, as Fournier remarks, two hereditary expressions of syphilis which are essentially expressions of direct or indirect etiologic influence respectively. The first of these is the transmission of syphilis as syphilis from the ancestor to the descendant. The second is the transmission, from the ancestor to the descendant, of sundry pathologic characteristics, having nothing syphilitic in type per se, but consisting in the reactions—to the syphilitic defect of constitutional imperfection and an element of embryonic development shown in the arrest of development—to the shock of syphilitic infection of the parental constitution. The first of these congenital conditions constitutes syphilitic heredity properly so-called. The second has been designated by various terms which evince its complex expression: parasyphiloses, dystrophies, toxinoses, etc. In dealing with these last types two factors have to be taken into consideration; embryologic states and the influence on these exercised by the paternal and maternal organism as influenced by syphilitic infection. Perhaps the most demonstrable and most familiar instance of syphilitic shock to embryonic development is the arrest of the fetus at the senile or simian period of embryologic development, i. e., at about 4½ months of intrauterine life. The old age appearance of a congenital case of syphilis is not an expression of syphilis per se, but an arrest of development of the fetus at the so-called senile period. Every one of the degeneracy stigmata may, however, be produced by syphilis of the ancestor.

DR. WILLIAM L. BAUM said that the arrest of nutrition in the syphilitic mother, as having a bearing on the child, is of exceptional interest to the general practitioner, as well as to those who are interested in special lines of work. There may be pre-existing syphilis in the parent, but this should not always be held responsible for arrests of development as observed in the child. There are many patients with arrest of development, supposedly specific in nature, who present notched teeth, etc., which are found in the non-specific and in chronic exanthemata like ichthyosis and psoriasis. He has examined children in a family in which there was no specific history given, although all the children had notched teeth. The same thing holds true of some of the nervous lesions which are attributed to syphilis. A paresis might be due to a nutritional change having syphilis as its exciting cause, still there are factors other than syphilis which may be responsible for similar changes in nutrition.

DR. L. B. BALDWIN said he knew of a family of five, all of whom had the typical Hutchinson teeth, and yet there is no history of syphilis in the family. All of them have had psoriasis. One member consulted a New York specialist at one time; he examined the teeth and said the condition was due to syphilis; consequently, in treating the psoriatic eruption he did not get good results, because he did not treat the patient for psoriasis.

DR. JAMES G. KIERNAN said that some seventeen years ago, in an article which appeared in the *Alienist and Neurologist*, he took the position against Fournier, that paretic dementia might occur from a syphilitic etiology without responding either to the ordinary clinical phenomena of syphilis or to therapeutic tests. Fournier at that time took the ground that there was a true paretic dementia which arose idiopathically, and that there was a syphilitic paretic dementia which respond-

ed to therapeutic tests. Since then Fournier has abandoned that idea, and now takes the position that paretic dementia and locomotor ataxia are both parasyphiloses.

Dr. Quirk said but little about one of the phenomena which is ordinarily charged to congenital syphilis, namely, the old-man appearance of the child. The child presents a senile appearance resembling certain of the anthropoid apes, and an arrest of development at the period of 4½ months or more would produce the senile type in the child.

Souques, about two years ago, reported and illustrated a number of cases in which this senile condition occurred—independent of syphilis—during childhood and persisted after maturity. The explanation, in Dr. Kiernan's opinion, is that the syphilitic influence, like any other, so checks the development of the child in certain parts that it is born with a senile appearance.

DR. EUGENE S. TALBOT said that Jonathan Hutchinson never intended that his name should be used, as it has been for the last fifteen years, in regard to the peculiar form of teeth named after him. He distinctly stated that only about 10 per cent. of the cases of syphilis present notched teeth. In the opinion of Dr. Talbot, any constitutional disease, or any condition of the mother in which there is starvation or worry, causing malnutrition, will produce this arrest of development of the fetus *in utero* at about the time of the third to the fourth month. The teeth begin to develop at the sixth week of fetal life. Dr. Talbot referred to their evolution from the shark up to man and spoke of their shapes. The arrest of development is simply a return to the atavistic condition. The structures of the face, jaws, alveolar processes and teeth are transitory, and therefore more liable to become affected than any other structure of the body. It is for this reason that he asked Dr. Baum and the essayist in what proportion of the cases coming under their observation they had noticed a change in the tissues of the face and jaws. It is expected that these structures are the first to be involved on account of the transitory condition of the jaws, the teeth and the face.

College of Physicians of Philadelphia.

Section on Otology and Laryngology, Dec. 20, 1899.

CASE OF NEVUS OF THE TYMPANUM.

DR. E. B. GLEASON exhibited a man, 45 years of age, who presented a small, dark-colored growth in the posterior portion of the tympanum. There was no history of injury. The patient came to him on account of increasing deafness and occasional bleeding from his ear. At the first examination, a small incision was made in the growth, in order to determine its character, whether cystic or the bulb of the jugular vein; but these were excluded. There was only slight leakage, instead of a free hemorrhage, which would have resulted if it had been the vein. The next week a free incision was made deeply into the growth, and its interior touched with crystals of carbolic acid. As a result there was leakage for a day or two and the growth became somewhat smaller. The patient said he had undergone a long course of massage treatment of the ear for deafness about three years ago, but had not been benefited.

QUERY—What effect, if any, did the pneumomassage have on the development of the growth?

DR. GLEASON—Since making the incision the patient has declared that his hearing is improved. The tumor apparently had its origin from the posterior wall of the tympanum, and it was attached there rather than to the drum-head, which was projected in front. Examined with the Siegle speculum, the growth was found to move with the membrane, and did not undergo any change in color. The patient had not suffered with any exanthematous disease. The bleeding from the ear was not profuse nor constant. It would bleed for a night or two, then it would stop, and perhaps recur in a week. It began bleeding three or four years ago, about the time he first noticed the deafness. It had not bled, however, before the massage treatment was instituted.

DR. CHAS. H. BURNETT said that vascular tumors of the tympanic membrane are of rare occurrence. Buck, in his third volume on Otology, describes a case with such a small vascular tumor, occurring in a woman, 82 years of age; it was a small cyst in the lower portion of the membrana tympani. In 1879, Buchner described a hematoma in the ear of a pregnant woman. In the present case, from an imperfect examination, he thought that the whole drum membrane looked blue, as if it were all involved in the growth.

DR. B. ALEX. RANDALL said that the appearance of the drum-head was more pinkish than blue, to him. The tumor might be of cystic character, but he was not inclined to look on it as a hematoma. These tumors usually are attended by a great amount of bleeding, sometimes requiring tamponing of the canal to check it: The reporter is to be congratulated that he did not have a severe hemorrhage after his incision. Chromic acid is preferable to carbolic in such cases. He would first clean the canal and then apply cocain to the growth before using the chromic acid, which otherwise would be too painful.

TUMORS IN THE LARYNX.

DR. JOSEPH GIBB exhibited a man of 46 years, who two years ago began to be hoarse. After a fit of coughing he expelled a gristly substance from the throat, and this was followed by a slight amount of bleeding. Subsequently he had symptoms of stenosis with a strident cough, and occasionally stridor in breathing. He was first seen by the doctor four weeks previously. At the first examination he found a tumor occupying the left side of the larynx, above the vocal cord, of a pinkish color. There had been no hemorrhage since the first attack, except when a small piece of the growth was removed for examination. The specimen was obtained by an instrument with a Krause handle and a Sherck tube, with the aid of which he succeeded in cutting off two or three small pieces. The microscopic examination showed that it was an endothelial or inflammatory growth, but the pathologist could find no evidence of malignancy.

DR. GEORGE H. STOUT had seen a similar case recently, a woman, who was very hoarse and who was found to have warty-looking growths in the larynx, and also at times had difficulty in breathing. She was in a hospital and had been reported to him as a tuberculous patient; it was said that tubercle bacilli had been found in her sputum, but after treatment for a few weeks the sputum was again examined. No bacilli were found. She came one morning with her voice much clearer, and she stated she had coughed up a piece of flesh like that described in the preceding case. After a course of antisyphilitics, a mild mixed treatment, her condition rapidly improved.

DR. P. S. DONELLAN recalled a similar case. From the prompt response to the therapeutic test he believed it to be of a syphilitic character, and he recommended this test in the patient exhibited.

DR. A. WATSON said that he did not feel like expressing an opinion on the diagnosis without further opportunity for examination. He thought that it had some of the appearance of a malignant growth. Too much weight should not be given to the negative pathologic report. In a case he had seen a few weeks ago, his first conclusion was that it was an inflammatory new growth, the first sections having this character. Later, he took a piece from the base of the growth and it was found to be epithelioma. In the case presented above, the fact that the pathologist gave a negative report might only be evidence that he had a piece from the surface to examine, whereas a piece taken from the base might show a different result. An antisyphilitic treatment might clear up the diagnosis.

DR. D. BRADEN KYLE confirmed the remark of the preceding speaker as to the difference in the appearance of sections taken from different parts of a tumor. A carcinomatous growth often has a papillomatous structure on its surface. This is partially true of growths in the mucous membrane, and in the female mammary gland. In some sections of a growth, made recently, the first, taken from near the surface, showed it to be a warty growth, but deeper sections showed typical carcinoma. In this case under consideration, while it may be warty on the surface, yet it really may be malignant. From his examination of this patient on a previous occasion, he considered it probable, however, that it was a syphilitic growth, and he advised antisyphilitic treatment. Specific inflammatory growths have peculiar characters, and he thought that they were present here.

DR. GIBB said that it was of great importance to establish

a diagnosis in this patient as soon as possible, because, if malignant, the only chance of a successful result depends on its early removal, before glandular involvement occurs. During the time he had been under observation, only four weeks, the time had been taken up in getting the sections for the pathologic examination. He said that he would adopt the suggestion and put the case on antisyphilitic treatment, but he had not much hopes of success, as he was more inclined to consider it one of carcinoma.

PAPILLOMA OF THE LARYNX.

DR. JOSEPH GIBB also read the notes of a case of this affection, in a girl, in whom stridor and dyspnea existed, but a portion of the growth had been removed, affording some relief, though there still remained considerable stenosis, as the result of adhesions of the anterior portion of the cord.

DR. WATSON said that in regard to the method to be adopted, he thought the galvanocautery should be used, after separating the sides of the cords. Not having seen the case, however, he would not discuss the treatment. As to the cause of papilloma in a child of 13 years, the growths may have been congenital. In some cases they may have an acute beginning in a laryngitis, with local ulceration and the formation of nodes on the vocal cords, or if congenital they may develop more rapidly after such acute inflammation.

DR. E. L. VANSANT said that in a case of stenosis of the larynx the choice of operation would depend very much on how thick the cords were and how closely they were bound together. Perhaps divulsion by the use of forceps would be the safest procedure to relieve the stenosis. Or, the forceps as modified by Dr. Gibb might be plunged through the glottis into the larynx, removing all tissue coming between the blades of the forceps as they are withdrawn. The base should then be touched with some cautery. If it were found that the cords were firmly adherent to the papillary growths, on their under surface, it would probably be wiser to operate by scraping.

DR. B. A. RANDALL suggested the possible advantage of separating the cords by the knife, and using the cautery on one side only, as there is much less tendency for a burned surface to unite with one simply cut.

DR. VANSANT said he had observed, after dissecting syphilitic adhesions of the pharynx, that touching the cut surfaces with trichloracetic acid promoted cicatrization more than any other agent that he knew of.

DR. E. B. GLEASON recalled a case of imperforate posterior nares that he had treated by trephining, which was followed by marked tendency to reclosure. This was afterward treated by the galvanocautery, at Dr. Watson's suggestion, and a permanent opening secured.

SPECIMENS OF LALYNX AND TRACHEA.

DR. WM. P. WARMOUTH, by invitation, exhibited wet specimens of the larynx and trachea of three children, showing ulceration and stenosis of the larynx, following intubation for diphtheria, in the Municipal Hospital. In one case the tube had been worn for fourteen days, it was taken out, but dyspnea was so great that it had to be reintroduced; this occurred at every attempt at removal: the tube was reintroduced fourteen times in all. Tracheotomy was then done, but the patient died three days later. The specimens showed extensive ulceration and cicatricial formation.

Two other cases were reported, in one of whom after intubation followed by tracheotomy complete occlusion had occurred; in a second case not tracheotomized, there was extreme stenosis.

DR. FRANK WOODBURY said that without knowing the thickness of the cicatricial adhesion, and judging only from the appearance of the specimens, possibly the performance of external laryngotomy and dissection of the vocal cords might be advisable.

DR. JOSEPH GIBB had had no experience with such lesions following intubation; his patients had either gotten well, or died, without this complication. In regard to the cases reported, he thought that the operation of splitting the larynx and trying to remove what cicatricial tissue can be removed might be advisable. Other scar-tissue would form, but it would be less than that removed.

DR. E. B. GLEASON said that he had examined the case of complete stenosis after it was tracheotomized, and he could not get a tube for a 1-year-old child through. He did not think the operation suggested would be of any use, since the cicatricial tissue would form again, as it involved at least one-half an inch of the larynx and trachea.

DR. STOUT said the case of stenosis might be dilated with the acorn-tipped dilators.

DR. WARMOUTH said that in one case there was absolute occlusion; even a knitting-needle could not get through.

DR. WATSON said that if this were a simple adhesion between the vocal cords or bands, throughout their length, it could be dissected up by external opening of the larynx, and treated by subsequent dilatation, just as any other closed canal. He had seen cases in which, by persistent dilatation, by successive introduction of larger intubation tubes, the opening was restored.

DR. E. L. VANSANT thought that if the smallest kind of an opening could be found, it would be far safer to trust to dilatation than to laryngotomy.

DR. B. A. RANDALL confirmed the last remark, and referred to a case in an adult where dilatation had succeeded. He suggested a study of this case from the tracheotomy opening, in order to determine the extent of the cicatricial tissue, as it might be found to be tracheal rather than laryngeal. Possibly a grooved needle might be introduced from below and the knife passed along it, followed by dilatation, which would be less severe than the external method.

DR. FRANK WOODBURY read a paper on "The Treatment of a Common Cold." It will appear, with the discussion, in THE JOURNAL.

Cleveland Medical Society.

Quarterly Special Meeting, Dec. 22, 1899.

FRACTURES OF THE SKULL.

DR. NICHOLAS SENN, Chicago, read the paper of the evening, on this subject. Visceral intracranial lesions, he said, are of more consequence in determining the necessity for a method of operative procedure in cases of fracture of the skull than are the extent and character of the fracture. The greatest source of danger in these injuries is a complicating wound communicating with the skull contents through the cranial defect, thereby producing grave danger of infection. The examination of the wound for the purpose of determining the exact location and extent of the fracture, and the search for visceral injuries, must be conducted with extreme care to guard against wound infection. Every accidental wound must be regarded as infected, but superficial infection amenable to antisepsis may be made deep and inaccessible by careless diagnostic exploration. No digital nor instrumental examination of the wound should be made until the necessary thorough aseptic preparations have been completed. In compound fractures the entire skull should be shaved and disinfected, and the wound flushed with hydrogen peroxid and a 2.5 per cent. carbolic acid. In basal fractures the ear and nasopharynx should be disinfected so far as possible. Absolute rest in bed is essential in treating skull fractures.

Regarding the practice of some surgeons in trephining all fractures of the vault of the skull, Dr. Senn said that the surgeon who converts a closed fracture of the skull into an open one, without adequate cause, assumes a great responsibility. The present technic of asepsis does not furnish absolute protection against infection. Conservatism is to be recommended in the treatment of these fractures, especially in children. Trephining should be done in case of: 1, subcutaneous fractures in adults with marked depression; 2, subcutaneous fractures attended by focal symptoms; 3, all compound fractures including punctured and gunshot fractures, and 4, fractures complicated by rupture of the middle meningeal artery. The trephine should never be used in the elevation of a depressed fracture, the chisel and mallet being much superior tools. Comminuted compound fractures demand free exposure to determine their extent and to discover foreign bodies, and every bone fragment must be taken out and kept in warm 2.5 per cent. carbolic acid while the wound is disinfected, and replaced in proper position in the skull defect preparatory to closure. If the wound remains aseptic, all the fragments will retain vitality and take an active part in restoring the continuity of the skull. In case of rupture of the middle meningeal artery, and if the bleeding point can not be reached from the seat of fracture, the artery must be exposed and ligated in the temporal fossa.

DR. GEORGE W. CRILE asked Dr. Senn what had been his experience with regard to the occurrence of epilepsy following fracture of the skull, and what results he had secured in such cases from further operation, especially in those of the so-called Jacksonian type?

DR. HUNTER ROBB asked him in what proportion of cases it is possible to carry out any precautions to prevent infection of the scalp or brain, when there is a compound fracture? Frequently it is the rule to expect a septic condition.

DR. C. J. ALDRICH asked him what bad results he had noticed from leaving open the space made by trephining, and whether there is not more danger of irritation resulting from restoring the fragments than from leaving the wound open?

DR. F. E. BUNTS asked whether he had noticed a sign prognostic of death in cases of fracture, which he had learned from experience to consider pathognomonic? It is, in fatal cases—particularly of fracture at the base of the skull—the fact that the patient begins early to manipulate the pubes.

DR. D. P. ALLEN said that he did not feel as conservative as Dr. Senn about going down on the skull, but thought it proper to do so in order to ascertain positively whether there is a fracture, for the reason that he had seen spicules of bone projecting from the internal table and causing death from brain pressure in cases in which the external injury was slight. In reference to asepsis in fracture at the base, he had reported at the last meeting of the American Surgical Association a large number of these cases that ended in recovery, in which no attempt had been made toward asepsis. It is impossible to say how the internal ear and nasopharynx can be rendered aseptic, and it is a question whether damage may not be done in these cases by attempts in this direction. It had been his experience that the dura matter has considerable power of reforming bone, and that openings of small size are thoroughly closed, but that in openings as large as 2½ inches it is useful to replace some fragments. He warmly endorsed Dr. Senn's insisting on keeping these patients absolutely quiet after operation, and had seen some who got up in a short time go on to death without it being possible to discover, at the post-mortem, any sign of injury.

DR. C. B. PARKER'S experience with Jacksonian epilepsy had been similar to that of the essayist, in that there is some temporary benefit from operation, but very few recoveries. He emphasized the necessity of thorough asepsis of the field of operation in these injuries, and thought that the replacement of bone fragments was frequently of some benefit.

DR. N. S. EVERHARD, Wadsworth, asked how it was possible to render punctured wounds of the brain aseptic.

DR. SENN, in closing, said that he had never had much confidence in cortical excision for Jacksonian epilepsy, and while he had performed the operation a number of times with temporary benefit, he had never seen lasting results. Traumatic epilepsy, in his experience, was more frequently the result of intracranial lsions than of change in the contour of the skull. He confessed that the means of effecting absolute asepsis in cases of compound fracture of the skull are very imperfect, yet the attempt should be made in the right direction. He insisted that in every case of fracture of the skull the wound must be considered as infected and the entire scalp shaved and rigidly disinfected. Primary disinfection should be made step by step. He places great value on the replacement of fragments in the opening in the skull, as he has seen as many cases of traumatic epilepsy developing after extensive skull defect as after depressed fracture. He believes the dura to be a very sensitive structure, and that it is the duty of the surgeon to place the parts operated on as nearly as he can in the same mutual relation they previously occupied. Some years ago he made extensive experiments on animals as to the reproduction of bone, and invariably found that extensive skull defects were not repaired, and that the osteogenetic function of the dura mater is extremely limited. He thought this fact was conservative, as otherwise the surgeon would be often compelled to deal with exuberant provisional callus and frequent cerebral complications. He had never seen the symptom mentioned by Dr. Bunts, but thought the observation a very valuable one.

Eighth Annual Meeting, Jan. 12, 1900.

The following officers were elected for 1900: president, H. S. Upson; vice-presidents, J. B. McGee and Lillian G. Towslee: recording secretary, W. O. Osborn; treasurer, J. M. Ingersoll.

MANAGEMENT OF INCOMPLETE ABORTION.

DR. J. H. BELT read a paper on this topic. Dilatory measures in the treatment of incomplete abortion, especially in those cases coming on after the twelfth week of pregnancy, have many sins to answer for. In every case and as soon as possible the uterus ought to be emptied, using the finger for a dilator as well as a curette. The method is a practical one notwithstanding the discouraging comments that have been made as to the possibility of thereby reaching the uppermost portion of the uterine cavity, and if faithfully performed, after-infection need not be feared. It is more tedious and difficult but safer for the general practitioner than instrumental curettage. The dangers of the latter may be seen in connection with the recorded experience of nearly all leading gynecologists in this class of cases, especially when softening of the uterine walls is present to an abnormal degree.

DR. HUNTER ROBB endorsed the statement of the writer that the general practitioner can better handle such cases by removing the contents of the uterus with the finger rather than with the curette, which is a dangerous instrument in inexperienced hands.

DR. H. W. QUIRK pointed out that it is very difficult in some cases to thoroughly clean out the uterine cavity with the finger, and said that he had found the lithotomy forceps very efficient and entirely harmless.

DR. W. H. HUMISTON noted that in experienced hands the dull curette is the best instrument to use, but insisted that thorough preliminary disinfection should be practiced before its use. In the subsequent hemorrhage he uses a stream of hot water from a double-nozzled syringe and then packs the uterine cavity with gauze. In certain cases it is very easy to puncture the uterine wall with any instrument.

DR. M. ROSENWASSER said that he always used an anesthetic when emptying the uterine cavity of retained secundines. He considers the digital method of removal the most thorough, and in cases of puncture of the uterine wall the danger of fatal hemorrhage is not so great as has been suggested.

DR. L. B. TUCKERMAN recently saw several cases of septic infection following abortion performed by irregular practitioners, who had used an ordinary cervical dilator with no antiseptic precautions.

DR. L. G. TOWSLEE always uses an antiseptic in curetting after abortion, and has seen a very severe case of shock in one instance when an anesthetic was not used.

DR. W. H. HUMISTON added that, while it might be possible to puncture the uterine wall with a small sound without causing much damage, yet puncture with a large-sized curette will almost always cause considerable hemorrhage.

DR. J. H. BELT, in closing the discussion, mentioned that the difficulty in thoroughly cleaning the uterine cavity with the finger can be overcome by the use of considerable long-continued force with the other hand pushing the uterus down into the pelvic cavity. In the use of this method he has not met with a case of hemorrhage during removal of the uterine contents, and thinks that when it occurs it is most likely due to the use of the curette. As the use of an anesthetic necessitates the delay necessary to secure an assistant, he usually works without it. The latter part of the operation is usually much easier than the first, as it is the dilation which causes the greatest amount of pain.

ADHERENT PERICARDIUM.

DR. H. W. ROGERS read a paper on "Adherent Pericardium with Report of a Case." The symptoms and physical signs in a large proportion of cases are obscure, yet the condition is not so rare as many suppose. Symptoms and physical signs are often deceptive. Many times those most common to this condition are associated with the more common forms of cardiac disease. A break-down of the right heart, not traceable to some valvular defect in the left side or lung disease, and which does not improve with rest in bed for a few days with proper diet and medicinal treatment, is very suggestive of that lesion.

DR. C. F. HOOVER spoke of the systolic retraction which Broadbent describes as occurring in the posterior axillary line about the ninth, tenth and eleventh ribs. This retraction is not due to synechia cordis, but is produced by the tension of the diaphragm, which is communicated to the ends of the affected ribs. He has seen one case of aortic insufficiency in

which this retraction could be seen to move an entire rib. He pointed out that it is a difficult matter to diagnose systolic retraction at the apex, and has seen cases in which strong diastolic impact led to the conclusion that systolic retraction was present.

DR. H. W. ROGERS, in closing the discussion,, said that in cases in which you can not find any special cause for marked disease of the heart, such as valvular, kidney or pulmonary disease, and in the absence of physical signs, it is fair to suspect some pericardial trouble, and to give an unfavorable prognosis.

New York Academy of Medicine.

Surgical Section, Jan. 8, 1900.

RECURRENT SPINDLE-CELLED SARCOMA WITH GLANDULAR INVOLVEMENT.

DR. W. B. COLEY presented a man, aged 40 years, successfully treated with the mixed toxins of erysipelas and of the bacillus prodigiosus for this condition. The tumor was first noticed in the fall of 1896, and two operations were done at the Bridgeport Hospital, one in March and the other in May, 1897. The patient came to him in August of that year, the tumor presenting every appearance of malignancy, and further operation was out of the question. The growth extended from the left auditory meatus forward nearly to the angle of the mouth, and upward from the angle of the jaw almost to the orbit. It presented an area of ulceration about two inches in diameter. The submaxillary glands were plainly involved. Daily injections of the mixed toxins were given, and, as the man's condition was good, the dose was rapidly pushed up to the point of producing a reaction marked by a severe chill and a rise of temperature up to 104 or 105 F. Slight improvement was noticeable at the end of the week, and when the treatment was discontinued, at the end of ten weeks, the neoplasm had apparently disappeared. During the two years and a half that have elapsed since that time, this man has remained in good health and free from any recurrence. A microscopic examination showed the tumor to be a spindle-celled sarcoma.

CARCINOMA OF BOWEL.

DR. COLEY also exhibited a physician on whom he had successfully operated for this condition. The early history of the patient, that is, for one year previous to April, 1899, strongly pointed to recurrent appendicitis, and on that supposition he was operated on at the Toronto General Hospital. However, instead of finding an appendicitis, the operator discovered a carcinoma of the cecum and of a portion of small intestine which was adherent to it. In May of the same year Dr. Coley operated, removing the cecum and about seven inches of the small intestine. The divided ends of the latter were united by a Murphy button, and a lateral anastomosis made by means of a large oblong Murphy button. The patient has improved greatly since that, and there is as yet no evidence of any recurrence.

DR. J. A. WYETH was inclined to think that sarcoma is sometimes cured as a result of the acute inflammatory process excited rather than by the direct influence of the mixed toxins. As a case in point, reference was made to a case of sarcoma of the abdominal wall, that he had cured by injections of arsenious acid. This occurred fifteen years ago, and the cure has been permanent. The fact that sarcoma might be cured by an acute inflammatory process does not prevent him from believing that Dr. Coley's method is as scientific as it has been successful.

TREATMENT OF AORTIC ANEURYSMS.

DR. J. M. T. FINNEY, Baltimore, Md., read a paper on this subject, and stated that the French method of injecting gelatin had been tried in nine cases at the Johns Hopkins Hospital, and while none of the patients had been cured, the method seemed to possess a certain amount of merit. The great drawback to it was the pain caused by the injections. They had had more success with the method of "wiring." The needle should be sufficiently large to allow of the easy passage of the wire and, except for a distance of 1 cm. from its tip, should be insulated by a coating of the best black French lacquer. As this coating will not stand boiling, the needle should be sterilized by exposure to a temperature of 160 F., in a compartment for one hour. A series of experiments, undertaken with a view to determining the best wire to use, and the most suitable strength of the electric current, resulted in the selection of a current of 20 milliamperes and of a wire made of 75 parts of copper to 1000 of silver, and drawn down from No. 8 to No. 27. As to results, in 35 per cent. of the reported cases there was evident improvement and prolongation of life, and both clinical and post-mortem evidences attest the efficacy of the treatment.

DR. WYETH, from a careful study of the literature of aneurysms, felt constrained to express his preference for a thorough trial of the rest and iodid treatment before resorting to either deligation or wiring.

DR. P. BOLTON stated that the gelatin injections were used in four patients, at the Hudson Street Hospital, during the last year, but none was cured, and all suffered much pain, while some also had chills and fever.

Philadelphia Obstetrical Society.

Jan. 4, 1900.

ANENCEPHALIC MONSTER.

DR. H. C. LARGEMAN, by invitiation, presented this specimen. The mother was 21 years old, a primipara, and had been married ten months. She and her husband were healthy, and the family history showed no deformity in either branch. When the patient was first seen she had been in labor for about two hours. The abdomen was small. The fetal heart sounds were absent. On digital examination a face presentation was diagnosed. Two hours later the fetus was expelled. A large amount of amniotic fluid surrounded the fetus, which was an anencephalic monster with great defect in the development of the cranium and brain, the head and forehead almost absent and the eyes bulging out on either side. There was double harelip, and broad shoulders and chest. The child was a female. When about two months pregnant the mother was greatly frightened at a rattlesnake which had been stepped on by her brother, and which she thought had bitten him.

DYSTOCIA FROM AN ANENCEPHALUS.

DR. GEORGE M. BOYD reported a case of dystocia due to an anencephalic child. The mother was a Russian, 28 years of age, a primipara, and polyhydramnios was present. She was delivered at term, the labor being a protracted one, podalic and cephalic version being necessary. The diagnosis was not definitely determined until she was put under anesthesia. As soon as it was established, the blunt hook of a traction forceps was introduced under the armpit and the child, weighing eight pounds, delivered. The speaker called attention to the importance of the necessity of anesthesia in these cases, as it aids greatly in making a careful digital examination, which is of prime importance.

OMPHALOCELE.

DR. W. REYNOLDS WILSON reported a case of omphalocele with specimens and photographs. The mother was a primipara, 40 years of age, and hydramnios was present. When seen, the labor had progressed for about two hours and the pains were moderate. The child weighed 6¾ pounds, and was well developed except for the abnormality in the region of the umbilicus, at which point a hernia was present. From the lower surface and near the junction with the abdominal wall the umbilical cord made its attachment. He considers these cases no doubt due to faulty development.

DR. E. E. MONTGOMERY, in discussing these papers, mentioned having seen a malformation similar to that presented by Dr. Wilson, which had been born in the Philadelphia Hospital. In this instance, however, it was found that a twin pregnancy had occurred, and that there was firm union at the umbilicus. Death had occurred. The mother was a primipara, and the children both males.

Philadelphia Pediatric Society.

Jan. 9, 1900.

CONGENITAL HEART DISEASE.

DR. S. M. HAMILL presented a girl of 11 years, with this trouble. The history showed that labor had been normal at her birth, while two sisters are living and in good health. She has been healthy until four years ago, when she began to lose flesh, and lately she had recurrent attacks of tonsillitis.

When seen on Dec. 14, 1899, she complained of headache, cold hands, and dyspnea on slight exertion. There was no clubbing of the fingers and she has never been cyanosed. In the precordial region there was bulging with apex-beat in the fifth interspace and the mid-clavicular line. The beat was forcible, and a thrill was detected on palpation. Auscultation revealed a systolic murmur, heard loudest in the second left interspace, and not transmitted to the vessels of the neck. While the adventitious sound might have been due to pressure of an enlarged bronchial gland, postnatal endocarditis, or congenital heart disease, most of the signs pointed to congenital heart disease. The essential lesion appeared to be pulmonary stenosis, or patulous ductus arteriosus.

DR. F. R. PACKARD agreed in the diagnosis of pulmonary stenosis but could not agree that it was congenital. He was aware that a number of such cases had been reported, yet some of them might be open to doubt.

MILIARIAL ERUPTION IN SCARLET FEVER.

DR. J. P. CROZER GRIFFITH read a paper on the occurrence of this, and reported several cases. Many text-books give this question only casual attention, while some writers have spoken of a sudaminal rash occurring in this disease. Some believe that vesicles or sudamina are to be found only in severe cases of scarlet fever, but he considers miliaria not an uncommon accompaniment, although he does not agree that the patients with miliaria desquamate to a greater extent than those without it. Four cases of scarlet fever were reported; in all this condition was present, and yet the disease was not especially severe, and the desquamation progressed in the usual way.

DR. ARTHUR VAN HARLINGEN believes a distinction should be made between miliaria and sudamina—the former an inflammation of the sweat glands. The latter, simply an occlusion of the openings, he thinks might be due to hot clothing.

DR. JAY F. SCHAMBERG expressed the opinion that the amount of desquamation depends on the degree of vesicular eruption.

Philadelphia Academy of Surgery.

Jan. 8, 1900.

SARCOMA OF THE INTESTINE.

DR. RICHARD H. HARTE exhibited a sarcoma of a child's intestine. The child was about 5 years of age, and was admitted to the Episcopal Hospital in October, 1899. The parents stated that the growth had only been present about a month, but this was undoubtedly wrong. The history, however, indicated a very rapid growth. The etiology of these cases is obscure. In this case there was a history of traumatism. On admission the abdomen was tympanitic and pressure in the region of the right iliac fossa detected an indistinct mass. The heart and lungs were normal, the spleen slightly enlarged. In many respects the case resembled one of tubercular peritonitis. Under anesthesia the abdominal muscles relaxed greatly and the masses could be more easily outlined. An exploratory incision evacuated a small amount of bloody serum. After removal of a part of the mass for microscopic examination, the wound was closed and a drainage-tube inserted. In reviewing the literature the speaker found that but very few cases of sarcoma of the intestine have been reported. Of thirteen, the majority occurred in persons over 40, and, as a rule, terminated fatally, within two months. In this instance the growth doubtless began in the submucous and afterward involved the lymph tissue.

DR. W. W. KEEN stated that he had once seen a similar tumor, but the growth involved the stomach instead of the intestine.

RESECTION OF WRIST-JOINT.

DR. W. J. TAYLOR exhibited a case of resection of the wrist-joint by a modification of Mynter's method. The patient was a man of middle life, who had suffered from the usual diseases of childhood, and numerous abscesses in various parts of the body. He was tuberculous. About two years ago a pain developed in the region of the wrist-joint, which afterward became swollen and evidences of involvement of the bone were present. The man was placed under ether and an Esmarch bandage applied above the joint. An incision was made on the dorsum, from the lower end of the radius downward between the second and third fingers. No tendon was divided except that one attached to the carpal bone. A splendid view of the entire joint was given and the tuberculous bone easily removed. The heads of the bones forming the joint were then removed by a saw, the wound packed with iodoform gauze and the edges of the wound united by silkworm gut. A splint completed the dressing. The wound has now firmly united, sensation is intact and the man is able to move all the fingers slightly. The result, therefore, is a good flail joint.

DR. R. H. HARTE considers the result most satisfactory. Ordinarily an excision of the wrist-joint is a hard one with which to deal. By the method adopted by Dr. Taylor, there is a better opportunity of removing the diseased tissue.

DR. WILSON asked in regard to the kind of support that had been used.

DR. TAYLOR said that different kinds were tried, but, as a rule, the man did better without any appliance. He is now getting massage daily, and the stiffness is yielding. In the operation, he followed Dr. Keen's suggestion to remove a very large part of the metacarpal bone of the thumb. This was advantageous.

The Johns Hopkins Medical Society.

Baltimore, Md., Jan. 8, 1900.

COMMINUTED FRACTURE OF SKULL.

DR. H. W. CUSHING exhibited a son of one of the professors in the university, who had fallen three stories, lighting on his head and sustaining a comminuted fracture of the skull, the lines of fracture extending around the base but not involving the middle fossæ. Following the accident there were general convulsions and unconsciousness lasting three weeks. There was no facial, but there was oculomotor paralysis; the latter has not entirely passed away. During unconsciousness he was fed by food placed on the back of tongue. An incision was made across the vertex from ear to ear, as in making examination of the brain post-mortem, and the flaps of scalp lifted from the skull. Several fragments of bone were removed. The brain was extensively lacerated. The boy is now well and running around with perfect intelligence. Dr. C. has not been able to find any similar case in the literature, but referred to one in Dennis' Surgery, where a comminuted fracture of a negro's skull was caused by "butting."

SHOCK FROM OPERATIONS.

Dr. Cushing also spoke of the shock caused by severe surgical operations, which sometimes causes serious apprehension for the patient's life, and may even prove fatal. This shock can be prevented by cocainization of the nerve in the central side of the site of operation. The cocain shuts off all afferent impulses. The leg can be amputated by cocainizing the sciatic nerve. A case was there shown in which amputation of the arm, clavicle and breast had been done for a sarcoma of the upper humerus. The shock in this case had been most alarming, whereas in a second similar one with cocainization—a male also exhibited—there had been no shock.

GASSERIAN GANGLION AND TIC DOULOUREUX.

DR. CUSHING also exhibited a man in whom the Gasserian ganglion had been removed for tic douloureux, with a successful result and surprisingly little scar or deformity. He also quoted at length from the *Lancet* of 1828, to show that the philosopher Locke did practice medicine, and also his treatment of a similar case.

THROMBOSIS.

DR. T. B. FUTCHER detailed the histories of a number of cases of thrombosis that had occurred recently in the hospital. It is an interesting fact that, according to the statistics of Welch, the condition, taking all cases, is 50 times as frequent in the lower extremities as elsewhere: in cardiac disease, on the other hand, the vast majority occur in the upper extremities and neck, especially in the left upper extremity.

REMOVAL OF CALCULUS.

DR. H. A. KELLY exhibited a woman who had suffered from obscure renal symptoms, especially paroxysmal lumbar pains. The ureter was catheterized and the fine scratchings of the calculus obtained on the wax-tipped end of the catheter. An incision was then made through the left loin and a calculus removed. Although it was necessary to ascertain the presence or absence of other stones, there was but a trace of blood and the muscular edges of the little wound readily closed and were united by a few catgut sutures. The scratch marks were readily seen with a magnifying glass.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, FEBRUARY 3, 1900.

MILKY ASCITES.

An accumulation of fluid in the peritoneal cavity may result from either local inflammatory conditions, or more exclusively vascular states. In the first instance, it occurs as an exudation; in the latter as a transudation. The second of these conditions may develop in consequence of venous blood stasis from whatever cause, general or local, or of undue permeability of the veins, such as is associated with nephritis, tuberculosis, carcinoma and other cachectic states. Exudates and transudates are usually clear, though the former are likely to contain flocculi of lymph, while their specific gravity is the higher—above 1014—and they contain the more albumin. The effusion may be bloody, and contain red corpuscles. Occasionally, ascitic fluid is whitish, like milk. This appearance may be due to the presence of either fat or chyle. The former has been observed in connection with tuberculosis or carcinoma of the peritoneum, when large numbers of fat-cells are thrown off and become admixed with and partly dissolved in the fluid present. Chylous ascites may result from rupture of lacteals or the thoracic duct, although it has been observed also in connection with carcinoma of the abdominal viscera.

In a case referred to by Osler[1], diphtheria bacilli were isolated from the fluid, and in one reported by Eshner[2], micro-organisms resembling colon bacilli were found.

A case reported by Poljakoff[3] differs from most of those on record in the failure of the fluid to yield to any of the reactions of fat. The patient was a woman, 48 years old, who presented general anasarca, and who denied and presented no evidence of syphilitic infection. The urine, passed in small amount, was dark red in color, with a specific gravity of 1033, and it contained a small amount of albumin, with hyaline and granular tube-casts. The abdominal effusion increasing, puncture was practiced, and nine quarts of a milky-white fluid were evacuated. The accumulation, however, reformed, the heart became weaker, and death ensued ten days later. On post-mortem examination the kidneys were found involved in parenchymatous inflammation. The liver was small and cirrhotic, and was the seat of a number of cicatrices, and of excessive lobulation. The spleen was scarcely enlarged. The peritoneal cavity contained milky-white fluid, and the peritoneum was sclerotic. The heart exhibited brown atrophy. The peritoneal fluid had a feebly alkaline reaction, and a specific gravity of 1009. The sediment formed on standing was found, on microscopic examination, to consist of well-preserved leucocytes. The presence of fat could not be demonstrated on either microscopic or microchemic examination. Chemical analysis disclosed the presence of serum-albumin and globulin, and an absence of peptone, hemi-albumose and sugar. According to Poljakoff, only three similar cases have been reported (Lion, Achard, Lainton). In these carcinomatous peritonitis was present. In all of the cases a creamy layer failed to form on the surface of the fluid on standing, while the fluid became clear on addition of glacial acetic acid and subsequent application of heat, but not when shaken with ether.

1 Practice of Medicine, 1898, p. 607.
2 Proc. Path. Soc. of Phila., N. S., Vol. ii, No. 9, p. 230.
3 Berliner Klin. Woch., 1899, No. 1, p. 9.

PRACTICAL VALUE OF WIDAL'S REACTION.

Since Widal, in 1896, made "Pfeiffer's phenomenon" available for clinical use, a mass of observations has accumulated from which it ought to be possible to draw rather definite conclusions as to its diagnostic value. At the present time opinion seems to be divided on this point; some regard a positive reaction of decisive importance, others hold that the test is unreliable both in the positive as well as in the negative sense.

With Fischer[1], we hold that an investigator who proclaims his faith in Widal's method must show that his cases of supposed typhoid fever were actually typhoid: and yet the number of instances is decidedly small in which actual scientific proof, namely, the unquestioned demonstration of the bacillus of typhoid fever either during life or after death, has been furnished. Furthermore, the test must be made with the proper dilutions of the serum, and what is regarded as a positive reaction must be definitely stated. A large number of the reports fall short in either or both of these requirements. And those that regard Widal's reaction as unreliable must show, in the cases of positive result in other diseases than typhoid, that the typhoid infection was not present and that the patient did not pass through an attack of typhoid within a reasonable period; and in the cases of permanently negative results it must be clearly stated on what sort of evidence the diagnosis of typhoid fever is made. It is admitted that for therapeutic and prophylactic purposes the diagnosis may be satisfactorily made from a careful consideration of the sum total of clinical symptoms; but when it comes to the question of a scientific demonstration of the actual value of Widal's reaction, then the evidence of the presence or absence of typhoid, as the case may be, must be unimpeachable in all respects.

Observations of positive result with Widal's reaction without typhoid being present, and under circumstances that seem to exclude previous attacks of typhoid, have been published. Ferrand, Kasel and Mann and Fischer describe cases of febrile disease, evidently not typhoid, in which positive results were obtained once or twice with high dilutions of the serum, subsequent trials a few days later giving negative results. Experience does not teach that the presence in the serum of the specific

1 Ztft. f. Hyg. u. Infectionskr. 1899, xxxii, 407.

paralyzing substances is as evanescent as shown by these reports. The importance of careful bacteriologic control of such cases is shown by the case reported by Gwyn; the case was quite characteristic, rose spots were present, but the Widal reaction was not obtained and cultures from the blood gave a para-colon bacillus.

On the other hand, Busch, Schumacher, and Fischer describe cases of undoubted typhoid, the diagnosis being clinched by the demonstration of the bacillus, in which the reaction could not be obtained on repeated trial.

Much of the material at hand is little suitable for an exact determination of the real value of Widal's reaction: 1, because cases have not often been controlled by bacteriologic examination; 2, because the serum has not been sufficiently diluted—it must not be stronger than one to twenty-five, Fischer; 3, because many have regarded mere agglutination as sufficient to be interpreted as positive, whereas complete paralysis of all bacilli is essential for this purpose. Nevertheless, there are as stated above, faultless observations on record, which show that Widal's reaction, though a frequent phenomenon in typhoid, only has the value of a symptom, and that it can not be regarded as a pathognomonic sign of decisive value in differential diagnosis.

RELATION BETWEEN HEART DISEASE AND EPILEPSY.

Although some observers have contended that a causal relation exists mutually between disease of the heart and epilepsy, this view has not received general acceptance. It is not impossible that the two diseases, when present together, should react unfavorably, the one on the other, but this is a different matter from the one giving rise to the other. While the pathology of epilepsy has yet to be cleared up, that hypothesis seems the more plausible that attributes the manifestations of the disease to irritation of the motor cells of the cerebral cortex, already unduly susceptible in consequence of either hereditary or acquired peculiarities. The irritant may be of most varied kinds, from the products of abnormal metabolism, or toxic substances introduced from without, through all gradations, to coarse organic lesions. With this conception it is difficult to understand how disease of the heart can be capable of causing epilepsy, except, perhaps, as a result of cerebral hemorrhage, embolism, or thrombosis; and it is even more difficult to see how epilepsy can at all cause disease of the heart, except, perhaps, in the form of acute dilatation, in consequence of the violence of the convulsions. That disease of the heart, by giving rise to cerebral anemia or hyperemia, might render more frequent the attacks in an epileptic can also be comprehended. That disease of the heart and epilepsy do mutually give rise to each other would seem to be indicated, among other facts, by the rather infrequent association of the two.

In a recent communication on this subject, Stintzing[1] reports two cases in which the association of epilepsy and heart disease was present, the patients being under observation for long periods of time—seven and five years respectively—and the clinical observation being controlled by post-mortem examination. The one occurred in a girl, 29 years old, without hereditary predisposition, who, in the sequence of a traumatism at the age of 18 years, was seized with epileptic attacks and symptoms of mitral stenosis. The symptoms grew progressively worse, and death occurred after the lapse of eleven years, in consequence of an acute infection. The second patient was a man, 37 years old, who had suffered from epilepsy of moderate severity for fifteen years, and who died as a result of alcoholic excess. He had previously had several attacks of rheumatism, and he presented the lesions of mitral insufficiency and stenosis, as well as the remains of antecedent inflammation of the pleura and the lungs. As a result of a study of these cases and of an analysis of the literature, Stintzing expresses the opinion that the simultaneous occurrence of epilepsy and disease of the heart is usually accidental and is most probably not dependent on the same primary organic disease. Epilepsy may give rise to transient dilatation of the heart, but not to any permanent cardiac disease. When the two diseases are present together, the cardiac disturbance is not the sole cause of the epilepsy, but other etiologic influences, such as the neuropathic predisposition, alcoholism, etc., are also operative. Heart disease and arteriosclerosis favor the occurrence of epileptic attacks in so far as they influence the circulatory conditions in the cortical centers. This is observed with particular frequency in old age, as manifested in senile epilepsy. In the simultaneous presence of epilepsy and heart disease, cardiac tonics, such as digitalis, often exert a favorable influence on the former condition. Serious disease of the heart may aggravate the course of epilepsy and at times give a peculiar impress to the attacks, as exhibited in a cardiac aura before and angina pectoris after.

[1] Deutsches Archiv f. Klin. Med., B. lxvi, p. 241.

PERSISTENCE OF LIVING, VIRULENT PEST BACILLI IN THE SPUTUM FOR WEEKS AFTER RECOVERY FROM PEST PNEUMONIA.

Gotschlich[1] reports three cases of pest pneumonia, which are remarkable, first because terminating in recovery, and second because virulent bacilli remained in the sputum for weeks after apparent recovery. The pneumonic form of pest is nearly always fatal. The significance of the observation lies in the fact that such cases undoubtedly constitute a most dangerous source of infection. The primarily pneumonic localization without bubo can not be diagnosed except by bacteriologic means. The frequency of instances like these and their actual influence in epidemics are for future investigations to determine.

COLORADO AND QUACKERY.

The city of Denver has a lawsuit on its hands which has some features of medical interest. A man has sued for damages received from falling on a defective sidewalk, whereby he suffered fracture of his right arm and

three ribs. The defense is that his present damaged condition is due to treatment by an osteopath, and if the city wins its suit it may help to fix the status of osteopathy in the dominions of the great and good Governor Thomas, whose veto made Colorado more than ever the special dumping-ground for quacks. If the city loses, let us hope it will consider this fact.

GENERAL INFECTION WITH BACILLUS INFLUENZAE.

There are but few cases in which the bacillus of influenza has been demonstrated in the internal organs and in the blood. Of the twenty odd cases in which this has been done the brain is the organ in which the bacillus has been found most frequently. Slawyk[1] describes a case in a child, diagnosed as cerebrospinal meningitis, in whom the bacillus was present in the exudate obtained by lumbar puncture; later it was also found in the pus of an abscess about the external malleolus, in the blood, and post-mortem in an abscess on the back of the hand; histologically it was also found in sections of the lungs. The entire body of the child was invaded by influenza bacilli. The severest lesions were produced in the meninges, where thick, viscid, purulent exudate formed. Hence the clinical picture resembled that of epidemic meningitis. The point of entrance was probably the lungs.

PNEUMOCOCCUS ULCERATION OF THE STOMACH.

Dieulafoy[2] describes a rare but interesting form of pneumococcus infection, namely the gastric. Ulcerations of the stomach are occasionally seen in autopsies of cases of pneumonia, but Dieulafoy is the first to demonstrate that the pneumococcus is the actual cause of and present in such ulcerations of the human stomach. Bezançon and Griffon have shown that ulcerations may develop in the stomach of guinea-pigs experimentally infected with the pneumococcus. Of two patients with multiple serositis caused by the pneumococcus and presenting severe hematemesis during life, he found in one numerous small ulcers of the stomach reaching to the muscularis mucosæ, surrounded by an inflammatory zone; numerous pneumococci were present in the tissue of the floor and margins of the ulcers, and in the surrounding intertubular glandular tissue, even for some distance from the ulcers. In the second there were hemorrhagic extravasations in the mucosa, but pneumococci were not present. In how far such infectious ulcerations may be transformed into peptic ulcers remains to be seen.

THE BACTERIOLOGY OF OZENA.

Contrary to Loewenberg and to Abel, who regard a variety of Friedlander's bacillus—cocco-bacillus of ozena, bacillus mucosus—as the cause of ozena, Perez[3] finds that this annoying affection is caused by a special organism, which he designates as the cocco-bacillus fetidus ozenæ. The bacteriologic analysis of 63 cases—various form of rhinitis 32, ozena 22, normal nasal fossæ 9—forms the basis of the investigation of Perez. The organism of Loewenberg-Abel was found 17 times in the cases of ozena; 7 times in chronic rhinitis, and once in a perfectly normal nose. The cocco-bacillus fetidus ozenæ was found 7 times in 11 cases of fetid atrophic rhinitis, and once in 11 cases of atrophic rhinitis without fetor. The Loewenberg-Abel organism is regarded as the result of a secondary infection. The cocco-bacillus fetidus ozenæ is immotile, does not stain by Gram's method, is non-liquefying, non-fermenting in lactose, causes fermentation of urea, produces indol, and is pathogenic for guinea-pigs, mice, rabbits and pigeons. In nearly all cultures it produces the fetid odor peculiar to ozena. Experimentally it manifests a distinctly elective action on the nasal mucous membrane. Direct inoculation of the nose in the rabbit produces acute, subacute and chronic inflammations; in intravenous inoculations the principal result is hyperemia, hemorrhages and hypersecretion of the pituitary membrane, the organism being recovered from the mucus. The animals appear sick and miserable, become emaciated and anemic. Bacillus mucosus does not produce fetor and has no special elective action on the nasal mucous membrane. For these reasons cocco-bacillus fetidus ozenæ is regarded as the true cause of ozena.

ALCOHOL AS A FOOD.

The temperance workers of the W. C. T. U. are somewhat agitated over the alleged statement of Professor Atwater, that alcohol is a food and that therefore the teachings of the physiologic text-books to the contrary are incorrect. The antitemperance people are correspondingly elated by his findings, and make the most of them. It seems to us that there is as little basis for alarm on the one hand as for elation on the other, especially when Professor Atwater has expressly said that he believed alcohol an excellent thing for healthy persons to let alone. The whole agitation depends on the signification of the word, "food." If it means anything that is oxidized and used up to any extent in the human body, it will include a very great many unwholesome and unpleasant substances besides alcohol. A man could support life on carrion, for example, and there are other substances that, while they are eminently oxidizable, are yet so disturbing to the general equilibrium of the organism that their ingestion is very unadvisable. The action of alcohol on the general metabolism may not be all included when we say it is consumed in the system and supplies heat and energy. It may be simply a case of very small gain at very large expense. There are many substances that are nutritious in a sense, but have a way of interfering with the important functions, sometimes vital ones, so as to be disastrous in their effects. There are many actively toxic substances that can be oxidized in the animal body and yield energy to a certain extent, and thus meet the technical definition of food. The food value of alcohol is insignificant at the best, and it is not taken for its nourishing but for its neurotic properties. If these latter are in any way inimical to human welfare, it is a very small matter that a couple of ounces be assimilated, and one that has no practical bearing on the temperance question. The school textbooks may require some slight alteration, but that is something that has to be done so frequently that it ought to give no concern. Neither the temperance advocates nor their opponents should lay such stress on such un-

[1] Zeit. f. Hyg. u. Infectionskr. 1899, xxxii, 113.
[2] Clinique médicale de l'Hôtel-Dieu de Paris, iii, 1896-99.
[3] Annales de l'Institut Pasteur, 1899, xiii, 537.

important technical questions which really have no bearing on the main problems of the dangers and uses of alcohol.

PRACTICE AND DIPLOMA-MILLS.

The newspapers announce that one of the "doctors" who was refused a certificate by the Wisconsin Board of Medical Examiners has commenced suit against the members of the Board to compel them to issue him the coveted certificate. The "college" which gave the complainant a diploma is assisting in the prosecution, and he is likewise being backed by others who have a prievance against the Board and the principles it represents. The question arises: What are the physicians of Wisconsin doing to aid the Board in its fight? There is in Chicago a man who has been making money by running a diploma-mill, and selling diplomas. He has been at it for years, under one plan or another, and has found the occupation decidedly profitable, and an easy way of making a living. The present medical practice acts of Illinois having taken away this man's calling, he has organized a medical liberty (?) league, or something of the kind, for the purpose of fighting the Illinois State Board of Health and the medical laws of the state. United with him are those who oppose everything which tends to raise the standard of education in the medical profession. And again the question arises: What are the physicians of Illinois doing to assist the Board in the fight?

RELIGIO-MEDICAL QUACKERY.

The prophets of the various "healing" Zions of the day are keenly alive to the profits. Brigham Young died a millionaire, Mrs. Eddy is said to have acquired great wealth, and Dowie is investing heavily with the funds derived from the faithful. We have not found any of them, except perhaps "crazy Schlatter," without a very comfortable place to lay their heads, or at all inclined to sell all they have and give to the poor—the giving is the other way, it is the poor that give to them. We admire thrift, and have no special sympathies with the sentimental socialism of the day that holds the world is going to ruin because some people are rich, but we confess to a natural dislike to seeing fortunes acquired by such methods. In comparison with these self-sanctified money accumulators the worldly fraud who heals by "magnetic power" seems even respectable, and osteopathy almost scientific. The love of money, we are told, is the root of all evil, and we have evidence that it is certainly at the bottom of the religio-medical humbugs who are just now afflicting civilization.

EARLY NOTIFICATION OF MENTAL DISEASE.

Dr. Walter Channing, in a letter to the *Boston Herald*, makes the suggestion that there should be a compulsory notification of all cases of suspected or developed mental diseases. His letter is instigated by a recent case of murder and suicide by a well known professional baseball player, whose peculiarities had been noticed for some time by his associates, though no attempt had been made to guard against the event that was at least partially foreseen. There is much force in Dr. Channing's suggestion; a persecutory delusional paranoiac is a standing danger and many tragedies are the direct result of such patients being at large and unwatched. As the Doctor says, there is no necessary disgrace in being insane; it does not imply any essential moral defect, but it is a misfortune that should not be permitted to extend itself to others by the irresponsible acts of the victim. The notification and early treatment and watching of these patients would also be to their own advantage, and in case of some forms of derangement might lead to an early recovery, while without it the case might progress to a hopeless stage. If every physician who recognizes a possible case of dangerous insanity was compelled to report it to the proper authorities, and the latter would require that the subject be placed under proper control or committed to a public institution, we would have fewer dangerous and troublesome cranks at large, fewer tragedies to record, and would be spared an occasional judicial murder. There are, it is true, difficulties in the way, but they can be overcome and the law would have an excellent effect. One who, like Dr. Channing and other alienists, has given attention to this subject can realize the public and private dangers from the common neglect in these matters. The Doctor's suggestion is a sensible one that is worth considering by the authorities and the community.

GOVERNMENTAL EMPLOYMENT FOR DENTISTS.

The *Army and Navy Register* of January 27 is responsible for the following:

Need of Army Dentists.—A mail report received from General Otis states that the teeth of nearly every man in the islands are in bad stages of decay and recommends that a number of dentists be sent from the United States to look after the teeth. He states that after a careful investigation, he finds that a year of life in the tropics, living on army rations, has almost completely ruined nearly 50 per cent. of the teeth, while those of the remaining soldiers are in various bad stages of decay. The report was sent to Surgeon-General Sternberg, who wrote: "I am of the opinion that the appointment of competent dentists to the Army is an absolute necessity. I have long been of the opinion that there should be some systematic way by which the teeth of every enlisted man could be inspected at least once in a year, and preferably once in six months. There are few civilians who permit their teeth to be neglected for so long a period as six months. The condition of the teeth is reflected in the physical condition of the individual. If the teeth are bad, ache much, or do not perform their functions properly in the mastication of food, the health of the soldier is seriously impaired. I strongly indorse the proposition, and suggest that one dental surgeon, with the rank of major, be appointed for each regiment." A bill has been drawn up by the direction of the Secretary of War, which will undoubtedly be passed by Congress. The bill provides that the surgeon-general of the army, with the approval of the Secretary of War, shall employ and appoint dental surgeons to serve the officers and enlisted men in the regular and volunteer army, in the proportion of one dental surgeon to every 1000 men in the said army.

We have heard a great deal recently about the unsuitability of the army ration for troops in the tropics, but this is the first occasion on which reference has been made to the rapid decay of the teeth as a diseased condition prevalent in the tropics, for which the army ration is held in part responsible. We know that the teeth of every candidate for enlistment are carefully examined by medical men attached to the recruiting service, and that ordinarily the teeth of men of the military age are not subject to such wholesale and rapid decay as repre-

sented in the mail report said to have been received from General Otis. We were therefore so little impressed with the above statement of the ravages of dental caries among the troops in the Philippines that, had the paragraph ended here, we would have regarded it as one of those vague exaggerations which occasionally get into print through the medium of inexperienced reporters on the look out for something sensational. An air of indisputable fact is, however, given to the statement by the opinions and recommendations of Surgeon-General Sternberg, not as heard and reported by one liable to misapprehend, but as printed *verbatim* from the surgeon-general's own writing. This induced us to investigate, and we find that some mistake has been made which will probably call for explanation from the *Register* in its next issue. We learn that Surgeon-General Sternberg did not write the opinions and recommendations credited to him, and that he had yet to see the report reputed as having been sent by General Otis. We may therefore conclude that matters are not in such a desperate condition as represented in the paragraph, which possibly had its origin in the misapprehensions of some earnest but inaccurate promoter of a bill advocating governmental employment for dental surgeons.

FRAUD IN MEDICAL EXAMINATIONS.

So commonplace does bribery seem to have become in some communities, that level-headed men will be prepared for the charges of fraud that have been made in some states in connection with examinations for license to practice medicine. From time to time it has been reported that various devices to cheat have been employed in these examinations, such as prompting, the use of notes, and the like, on the part of individuals, and such expedients will no doubt continue in use until the whole world has been made perfect; but certain preliminary conditions are necessary in order that such wholesale and premeditated fraud may be connived at, as it is said was actually done at recent examinations before a state medical examining board. Having apparently learned from their representatives in municipal, state and national legislatures, and from other public officials, that the road to success and preferment must be paved with deception, bribery, ballot-stuffing, convention-packing, and broken promises, a number of applicants for the license to practise medicine conceived the brilliant thought that it would lighten the labors not only of the small number of examiners, but also of the larger body of applicants to be examined, if the questions to be put were placed in the hands of so many of the applicants as were willing to join in the enterprise, just a little before the time set for the examination. All that was necessary was to find some obliging person who, for a consideration, would secure the questions from a public-spirited, patriotic, and loyal state printer, with an eye single to the welfare of the commonwealth and the nation. The necessary arrangements were made, the price agreed on, and in due time notice was sent to those who had promised to make good the outlay, when it was found that copies of the questions could be obtained for a smaller expenditure. In this way trouble arose, and finally the secret came out. It has been stated, further, that not dissimilar methods have been employed in examinations in some medical schools for the doctorate, or in hospitals for resident physicianships, an obliging clerk either securing the questions in advance or substituting for the original paper of answers prepared in the examining room and handed in, a much more perfect paper prepared at the convenience of the student. There is not much to add. The remedy suggests itself. It might have been hoped, however, that even embryo medical men were less free from the vices of the times than other men, and in spite of revelations such as those cited, there is still good reason to believe that the hope is justified.

"ENDORSED BY PHYSICIANS."

When a patent medicine vendor desires to make a specially strong claim for his stuff, he adds to all its other advantages that it has the endorsement of physicians. If by hook or crook a man who can write "M.D." after his name can be cajoled or bribed to sign a testimonial in favor of a patent nostrum, that testimonial will be kept on duty until the paper fades and the ink has lost its blackness. There are various ways in which to get these endorsements, the most business-like being to buy them outright, provided it does not cost too much. But there is another and better scheme than this. It is to get the doctors to use the nostrum for a while; get them to prescribe and endorse it by writing it up in the medical journals and by talking about it in medical societies. To do this takes time, energy, and no small amount of tact in advertising. The nostrum vendor must give the doctors a present occasionally, such as a pocket-book with an imitation dollar in it; a case containing an assortment of the nostrum to carry in their vest pocket—so they won't forget it—etc., and then he must supply them with an attractive sign to hang on the office wall. This is an especially good thing to do if the sign is ornamental and suggestive. Of course, it must contain the name of the nostrum in plain letters so that all the patients can see it easily. A calendar is a good thing, as it will last for a year and yet will change every month. In this way the promoter of the nostrum keeps on the good side of the doctor and can then work him to work the people. It is a great scheme, because money can be made from the start. After the doctors have been used long enough to make the necessary impression on the people, the latter can be handled direct through the newspapers. This method has been used many times in the past, as it is being used now, and will be so long as physicians are such willing tools. These agreeable reflections are called forth through the kindness of a friend who has sent us a clipping from a newspaper called *The Mirror*. The article is entitled "Mr. Ingalls and Women," although it is difficult to understand just what Ex-Senator Ingalls has to do with the subject, unless it be that he, like the doctors, is used as a tool with which to pull the chestnuts out of the fire. Here is the "meat" of the article, which of course is a paid advertisement, without further comment:

Maybe, as a rule, women headache and backache and legache more than men, but I declare to goodness! I never heard of one bellyaching more than the men. And so, not altogether cheerfully, I must yet admit that, in a thousand ways, women are more open to attack than men. Against a host of pains, Nature gave them less armor, while man's civilization increases their need of it. But I thank the Lord, that, even as civiliza-

tion has increased our pains, lo! many times and manifold, so hath Science given us relief from our suffering. For, perhaps the greatest boon to our race (the blessings of which, men equally share) comes to us under a name of two Greek words. "Anti" and "Kamnos," which, Anglicized as Antikamnia, mean *"opposed to pain."* This has been the sheet anchor of joy in a million homes where pain would dwell. It has harmlessly relieved the untold sufferings of countless mothers and daughters. In opposing and dispelling our pains, it is most democratic (which is not a characteristic of Mr. Ingalls). It cares not whether the cause be a "cold," la grippe, rheumatism or neuralgia—whether it be toothache or stomachache, headache or "that pain in the side"—making no difference whether our sufferings be due to man's inhumanity to woman or Nature's regular periods of distress. It discriminates not in favor of the rich or powerful, neither does it depress the overburdened heart—duchess or nurse, bookkeeper or bluestocking, servant or society queen, it's all the same to Antikamnia Tablets—they relieve them all and plant on the pinched face of pain the roses of health and joy.

And right here let me say, parenthetically, for the benefit of my sex (and before I proceed further to demolish Senator John James Ingalls of Kansas), that Antikamnia is put up in the form of five-grain tablets and that the usual dose for adults is from one to two tablets every two to four hours, according to the need. My doctor tells me that physicians prescribe them all over the world, because, unlike opium, narcotics and so many other drugs—gracious me, I can't remember half their names!—Antikamnia Tablets never produce habit, never incapacitate, are always prompt and efficient, have no balloon characteristics, lifting one up among the clouds in "iridescent dreams" only to drop one in the slough of despond. They just relieve the suffering, drive away the pain and leave the nerves as steady as you please, mind you, and Oh! so rested!"

Medical News.

THE COUNTY hospital at Colorado Springs, Colo., was destroyed by fire January 20. The loss is estimated at $8000.

THE HEALTH Board of Pine Bluff, Ark., has requested the mayor to issue a proclamation making vaccination compulsory on the part of all citizens.

AT A meeting of the city council of Huntsville, Ala., an ordinance was passed requiring the vaccination of all children attending the public schools.

DR. YVES KERRIEN, superintendent of the insane asylum at Vanvres-Malakoff, with four attendants, is on trial in a Paris court, for cruelty to inmates. Dr. Socquet, sent to investigate, testified to finding many traces of violence on the bodies of the patients.

THE GERMAN lay press has translated President Keen's editorial on the Gallinger bill, from THE JOURNAL of Dec. 23, 1899. The *Kolnische Zeitung* of January 11 publishes it in full, under the heading: "A Call to Arms Against Antivivisectionists," with a few words of explanation and approbation.

THE PARIS dailies mention that the physicians who have been gratuitously devoting their time, for years, to two large dispensaries for children in Paris, connected with the *Ecoles de Terne,* recently resigned *en masse* in consequence of an order from the officers of the society that they must henceforth refuse to treat children who are attending the "free schools."

THE QUESTION of the admission of medical women to membership in the Berlin Medical Society has been finally decided. The resolution, supported by Virchow and others, and adopted by an overwhelming majority, provided that any physician *approbirte* for the German Empire is eligible to membership. This opens the doors to women whenever they succeed in obtaining the official sanction of the German Empire, and not until then.

WE HAVE mentioned the utilization of carrier pigeons by physicians to obtain prompt news of their patients and a summons when needed, but a French confrère, Dr. Kaplan of Janville, Eure-et-Loir, has surpassed them by training pigeons to take back replies to the patients. The *Gazette Méd. de Paris* of January 13 illustrated the "medical pigeon house" and promises, soon, a full description of the methods of training pigeons to accomplish what it calls "these truly elegant and even marvelous results."

A BILL now pending in the Ohio legislature provides for the examination of all desiring to practice medicine in the state. It establishes an examining board which would be simply a continuation of the present board of registration vested with additional powers. The Board will refuse to accept diplomas as qualifications, and if the applicant fails to pass the examination he can not practice. The law has been asked for by a joint committee representing all the schools of medicine in the state.

A POSSIBLE danger of the public bath is illustrated in the report of a number of cases of conjunctivitis of varying degrees of severity, occurring among those known to have frequented a given bathhouse in Berlin. With a reasonable degree of cleanliness, and the observance of ordinary precautions, such an unpleasant occurrence should be avoidable, but the fact that it has been observed should be sufficient, not only to awaken those concerned in the management of such admirable institutions to its possibility, but also to suggest the measures necessary for its prevention.

PRACTICE ON DIPLOMA-MILL DEGREES.—The Michigan Board of Medical Registration has, on the opinion of the attorney-general, decided to throw out diplomas from diploma-mills that sell their degrees without requiring residence or study. This disqualifies a large number of the dupes of Armstrong, Bland & Co. These have flocked into Michigan of late years, and probably not all of them have yet come before the Board, but this decision will settle their status. It is a pity that some neighboring states do not have the Michigan law against diploma-mills; as it is, she has to protect herself against their products. The same question is at present before the Wisconsin Board, and is likely to require settlement by the courts. It is to be hoped that the law in both states will be found sufficiently iron-clad to resist the attacks that are likely to be made against its execution.

SMALLPOX PREVALENT.—The official reports to the U. S. Marine-Hospital Service, Dec. 29, 1899, to Jan. 26, 1900, show the general prevalence of smallpox throughout the country. The greater number of cases are reported from the Southern States. The following is a brief summary of reported cases: Georgia—Brunswick, 10; Blackshear, 16; Waycross, 7; Louisiana—Lafayette, 130; East Feliciana, 50; Shreveport, 51; New Orleans, 32; North Carolina—Halifax County, 50; Guilford County, 23; Rowan County, 16; Ohio—Cincinnati, 5; Cleveland, 48; Oklahoma Territory, 54; Tennessee—Memphis, 132; Columbia, 24; Nashville, 8; Mount Pleasant, 8; Texas—Austin, 10; Houston, 5; Index, 30; balance throughout the state, 31. Press dispatches state that the disease is rapidly increasing in Indiana, and has made its appearance in twenty counties. The chief difficulty lies in the fact that many physicians dispute the diagnosis. Dr. J. N. Hurty, secretary of the

State Board of Health, has issued an order requiring local boards to enforce the rules of the State Board without question. In event of failure to comply with its orders the secretary is empowered to institute legal proceedings against the refractory officials. Twenty cases are unofficially reported from Vicksburg, Miss.

NEW YORK.

New York City.

DR. J. RIDDLE GOFFE has been elected chairman, and Dr. George G. Ward, secretary, of the Section on Obstetrics and Gynecology of the New York Academy of Medicine.

WHILE A woman was engaged in spraying the throat of her child, aged nearly 3 years, suffering from diphtheria, the nozzle of the spray apparatus became loosened and lodged in the child's throat. The boy choked to death before a physician could reach him.

THE WIDOW of a wealthy brewer has made a number of charitable bequests: $2000 for the Home for Incurables, $3000 for the German Hospital, $1000 for the founding of a training-school in connection with this hospital, and $1000 each to St. Joseph's Home for Consumptives and the Lebanon Hospital.

AT THE twentieth annual dinner of the New York alumni of Cornell University, held January 26, the president of the University made announcement of an anonymous gift to Cornell of $80,000, for a building to be erected at Ithaca, for the study of anatomy and physiology. The toast, "Cornell in Greater New York," was responded to by Dr. Wm. M. Polk, dean of the Cornell Medical School in New York City.

CASE OF SMALLPOX.

A laborer who had been employed in North Carolina on a railroad, came to New York on the Old Dominion Line and, two days later, walked into Bellevue Hospital complaining of feeling sick. The physicians who saw him, it is said, told him that the proper hospital for him was the Metropolitan, but he could not be sent there until the following day. Not recognizing the true nature of his disease, they allowed him to leave the institution. The day was spent in riding about in street-cars, and at night he sought shelter in the City Lodging House. A few hours later he was so ill that he was sent to Bellevue Hospital, and then the correct diagnosis of smallpox was made. The man was promptly isolated, and the Board of Health notified. The lodging house was thoroughly disinfected, and the ninety-five lodgers were vaccinated.

PENNSYLVANIA.

THE ANNEX to the St. Joseph's Hospital, Lancaster, was opened January 26. The hospital is under the Order of the Sisters of St. Francis.

THE AUTHORITIES are still after offenders against the oleomargarin law. On January 20, seven grocers were arrested at Chester and given a hearing. All have been held in $300 bail.

AT THE Pennsylvania Epileptic Hospital and Colony Farm, in Chester County, forty epileptics are being cared for, while twice that number have been treated during the past year. Many applicants are rejected on account of lack of facilities.

Philadelphia.

THE CITY Board of Health is perfecting arrangements in regard to ventilation of street-cars.

TO DATE $1700 has been subscribed to the fund for the benefit of the widows and families of British soldiers who have lost their lives in the South African War.

DR. J. MADISON TAYLOR has sent out notices calling attention to the need for a pay hospital for contagious diseases in this city such as exist in Boston, New York, and other cities.

OPIUM SMOKING.

A YOUNG woman teacher of the Chinese became addicted to the smoking of opium, which it is believed she learned from her pupils. Having gone to an opium den and smoked, she developed alarming symptoms before medical aid was obtained, and death occurred shortly afterward. Smoking of opium appears to be by no means uncommon, not only among the Chinese but among others. Opium is consigned to Chinese merchants, and by them sold to the habitués, while, it is charged, policemen have been most negligent.

THE REPORT of the Philadelphia Society for Organizing Charity, for the past year, shows that fewer applications were made to the Society than during any of the previous five years. There were 22,077 applications for aid. Among these, 1243 non-residents of the city were cared for, of whom 345 were furnished with transportation. Notwithstanding that the state appropriation of $2500, asked for, was not made, the receipts amounted to $30,580.34, and at the end of the year $91.87 remained on hand.

THE COMMITTEE on Hygiene, of the Board of Education, proposes to give more attention to the subject of hygiene in the public schools, by proper instructions to janitors, on whom rests more responsibility than has been accredited them.

UNIVERSITY OF PENNYSLVANIA MEDICAL SOCIETY.

This society was organized January 26, for the promotion of medical and allied sciences, particularly among those officially connected with the University. It is hoped to enlist the active co-operation of all attached to the medical, biological, dental, and veterinary departments, the University Hospital, the Veterinary Hospital, the Laboratory of Hygiene, and the Wistar Institute of Anatomy and Biology. The following officers were elected: president, Dr. A. C. Abbott; vice-presidents, Drs. Milton B. Hartzell and Leonard Pearson; and secretary, Dr. A. O. J. Kelly.

OHIO.

THE SCHOOLS at North Amherst have been closed on account of an epidemic of scarlet fever and diphtheria. Twenty cases have been reported.

THE TRUSTEES of the Massillon State Hospital have asked the legislature for an appropriation of $170,000 for improvement of the institution. Of this sum $55,000 is desired for the construction of an assembly hall and the remainder for additional cottages and an infirmary.

Cincinnati.

A NEW chemical machine for disinfecting alleys and gutters has been tried by the Health Department, with marked success.

DR. C. C. AGIN, who has just recovered from an attack of appendicitis, has left for Cuba, to recuperate, in company with Dr. W. D. Haines.

SUIT AGAINST DRUGGIST.

A RATHER novel suit for damages was filed January 23, against a druggist. The defendant says that in December, 1898, she was suffering from extreme nervousness and sent her husband to the drug store for a medicine that would relieve or cure her. The druggist recommended and sold to her husband a proprietary medicine, and prescribed, as a dose for her, a teaspoonful three times a day until she was relieved or cured. She says that she took the medicine as directed until Feb. 15, 1899, when she became paralyzed and unconscious. She claims that she was seriously ill for ten weeks, and unable to attend to her work for six months, and that as a result her general health has been greatly impaired. She wants $5300 as damages either for the prescribing of the wrong or too much of the right medicine.

Columbus.

BOARDS OF HEALTH.

The tenth annual meeting of the state and local boards of health was held in this city January 25 and 26. Dr. Frank W. Hendley, of Cincinnati, a member of the state legislature, explained a bill which has just been introduced by him in the House, providing for the immediate disinfection of any school room in which, during a period of thirty days, five cases of any infectious disease have been present. He also spoke of another bill which he is preparing, providing for a state hospital for cattle infected with tuberculosis, and asking for suggestions on this point. Drs. Tenny, Probst, and Deuschle were appointed a committee to confer with Representative Hendley regarding his bill for disinfecting school rooms. Dr. Probst, secretary of the State Board of Health, recommended that the legislature be urged to enact laws corresponding to the standing orders and regulations of the boards of health. A motion was introduced to oppose the appointment of a commission by the Government appointing health officers in cities of over 3000 inhabitants, but, after considerable discussion, a new motion was offered and adopted to let the present mode of appointment remain as it is, and another in favor of appointing county health officers. Dr. W. A. R. Tenney, of Cincinnati, read the outline of a

bill providing for the sterilization of barbers' tools, which he asked to have referred to the same committee that was to confer with Dr. Hendley. The Nominating Committee reported the following nominations, which are equivalent to election: president, W. S. Hay, Weelston; vice-president, Mrs. Mary E. Moore, of Youngstown, and H. S. Prophet, of Lima; secretary, H. H. Cassel, Portsmouth.

ILLINOIS.

THE ANNUAL report of the Aurora City Hospital shows that 214 patients were treated in the institution during the past year.

THE QUARTERLY report of the State Board of Charities shows that the total number of inmates of state institutions at the end of the quarter was 10,197. The average cost per capita for their support was $39.06.

Chicago.

DR. CHRISTIAN FENGER has left the city on a vacation. He will return March 1.

DR. NICHOLAS SENN has returned from his hunting trip in Texas.

THE MEDICAL inspectors of schools examined 7376 pupils during the week, of which number 452 were excluded.

DRS. W. T. MONTGOMERY and D. W. Graham sailed for Europe January 30. They will spend six months and visit the principal Mediterranean ports.

THE WILL of the late Dr. Albert E. Hoadley, filed for probate January 26, disposes of an estate valued at $50,000.

MORTALITY STATISTICS.

The total mortality for the past week was 486, a reduction of 55 as compared with the week preceding. The reduction was chiefly in the chronic diseases and among the aged. There was a slight decrease of mortality from scarlet fever and diphtheria. The rate for typhoid fever also shows a decline.

DEATH UNDER "CHRISTIAN SCIENCE."

Another victim was added to the "Christian Science" mortality, January 26. An 8-year-old child was placed under the care of a "healer" who diagnosed the case as "bronchial croup" and applied the usual methods of prayer. During the course of treatment, which extended over two weeks, it was observed that respiration was greatly impaired and that there was some obstruction in the throat, but an examination was not considered necessary by the "healer." When the child finally succumbed, he is said to have stated that the immediate cause of death was "heart disease." The coroner's physician found that the child died of "strangulation, caused by the breaking of an abscess in the throat." It is not known whether legal proceedings will be instituted against the "healer."

PHYSICIANS' CLUB.

A regular meeting of the Physicians' Club was held January 29, with the following program: "Constitutional Aspects of Medical Legislation," Hon. S. P. Shope; "Analysis of the Present Medical Law, Its Strength and Weakness," J. W. Pettit; "Need of Organization to Promote Proper Medical Legislation," George H. Simmons; "Practical Difficulties in the Way of Passing Medical Practice Acts," J. A. Egan. Remarks were made by Drs. I. N. Love, of St. Louis, C. W. Hawley, Frances Dickinson and H. N. Moyer. A resolution was passed recommending George W. Webster for the first vacancy occurring in the State Board of Health.

MARYLAND.

REGULATION OF PRACTICE.

A committee of the Medical and Chirurgical Faculty, consisting of Drs. Samuel T. Earle, Jr., C. Hampson Jones, William Osler, William F. Lockwood, and Thomas A. Ashley of Baltimore, and J. McPherson Scott of Hagerstown, have framed a new law, changing and strengthening the existing legislation relating to the practice of medicine in Maryland. The committee visited Annapolis on the 25th ult., to bring the proposed measure before the legislature. The first law for the regulation of the practice of medicine in Maryland was that of 1799—the charter law of the Medical and Chirurgical Faculty. In 1839 the legislature changed this, and in 1892 the present law restored to the Society its lost powers in regulating practice; the 1892 law was amended in 1894 and in 1896.

Baltimore.

DR. JESSE W. LAZEAR, assistant in clinical microscopy, Johns Hopkins Medical School, recently appointed assistant-surgeon U. S. A., left for Havana, February 1. He will there be connected with the newly-equipped laboratory.

DR. THOMAS WOOD HASTINGS, formerly assistant resident physician of Johns Hopkins Hospital, has charge of the nurses and medical outfit in the American hospital-ship *Maine*, in the English service in South Africa.

DR. H. A. KELLY, while exhibiting some snakes at the meeting of the Johns Hopkins Medical Society, January 22, was bitten by a diamond-backed rattlesnake, on the end of a finger. Jerking his hand away quickly, he merely sucked the finger, and proceeded with his demonstration. No ill-results ensued, as he drew away his hand so quickly that the snake had not time to inject its venom into the wound after it had struck.

"ST. AGNES SANATORIUM."

St. Agnes Hospital, which is under the charge of the Sisters of Charity (R.C.), will be changed from a general hospital to one for treatment of nervous diseases exclusively. No insane will be admitted. Dr. George J. Preston has been made medical director. This is the first institution of the kind in the state, and there has been a growing need for it for many years. The late Dr. John P. VanVibber was on the point of establishing one, having had a successful dispensary in operation for some years, when his health broke down, followed by his untimely death. The institution has seventy acres of ground, part woodland, with greenhouses, flower and gruit gardens and grassy lawns, and over 125 private rooms, with two free wards supported by the city appropriations. A hydrotherapeutic establishment costing $40,000 was recently added.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 20 shows the total number of deaths to be 106, of which number 64 were white and 42 colored. There were 2 fatal cases of diphtheria, 1 of scarlet fever, and 1 of typhoid fever. At the close of the week there were 67 cases of diphtheria, over 100 of scarlet fever, and 3 of smallpox under treatment.

Washington.

THE SUM of $5000 has been added to the urgent deficiency bill for the completion of the isolated wards of Providence Hospital.

THE FOLLOWING physicians have been appointed by the Board of Trade on the Committee of Public Health: Dr. W. W. Johnston, Surgeon-General George M. Sternberg, Drs. H. L. E. Johnson, W. P. C. Hazen, L. W. Richie, J. E. Jones, G. H. Henderson, C. W. Richardson, I. S. Stone, H. H. Barker, J. W. Bovee, D. P. Hickling, F. T. Chamberlain, W. C. Woodward, and C. R. Dufour.

AS A result of the competitive examination recently held, Dr. Ferdinand Walsh was appointed assistant resident physician, Dr. W. C. Williams was promoted to be resident, and Dr. Charles G. Smith was made assistant resident, at the Central Dispensary and Emergency Hospital. Dr. W. E. Whitson has completed his service as resident physician and retires to enter private practice.

DENTISTS FOR THE ARMY.

The bill recently introduced in Congress authorizing the appointment of dental surgeons with the rank of major for each regiment is strongly opposed by Adjutant-General Corbin and Surgeon-General Sternberg. While the latter advocates the appointment of dental surgeons for the army, where required in the interest of the soldiers, he does not approve of their being commissioned officers with the rank of major. He calls attention to the fact that regular surgeons in the army have to serve about twenty years, and sometimes longer, before they reach the rank of major, and he does not think it would be fair to admit dental surgeons in the army with the rank at the outset. He favors the employment of contract dental surgeons.

LOUISIANA.

New Orleans.

THE CIVIL district court has refused to grant the mandamus asked for by the City Board of Health (see THE JOURNAL, January 27, p. 244) to compel the city council to increase its appropriation for the current year.

SMALLPOX, which has been quite prevalent for some time, numbers among its victims two members of the graduating class of the medical department of Tulane University. Twelve others are being cared for in the museum, which has been turned into a comfortable ward for them.

AT A meeting of the Board of Control of the leper hospital, January 22, it was announced that the appropriation of $20,000 for a permanent leper home was available. A commission will be immediately appointed to select a site.

NEBRASKA.

STATE MEDICAL LEAGUE.

The annual meeting of the Nebraska State Medical League was held in Lincoln, January 24. The work of the League during the past year was discussed and future plans were formulated. This organization was formed last year, for the purpose of uniting the profession in the state for furtherance of medical legislation, enforcement of medical law, and raising the standard of medical education. The League is made up of registered physicians of all schools. A vast amount of work has been done, and the League is steadily gaining in membership. The next meeting will be held in connection with the meeting of the State Medical Society, in June.

CANADA.

DR. SINCLAIR, Paris, Ont., has been appointed chief physician to the Blind Institute, Brantford, in place of Dr. Marquis, recently deceased.

DR. COTTON has given notice of a bill in the Quebec legislature, now in session, concerning the medical profession in that province. It is understood to apply to the election of officers of the College of Physicians and Surgeons. Proxies are to be abolished, and practitioners will hereafter vote in their own districts, instead of in Montreal.

OVER-CROWDING IN ONTARIO ASYLUMS.

It is stated that the number of inmates of the various asylums in this province is increasing, at present there being over 4500 lunatics undergoing treatment. Include those feeble-minded people at the Orillia Asylum and the number will reach 5200, an increase of over 100 during the past year. During the last ten years there has been an annual increase of something like 88.8, and, as a consequence, all the provincial asylums are full, and in many places these unfortunates are housed and cared for in the common jails. Although there is an annual increase of the insane population, the per capita ratio of lunatics of the population remains practically the same. The provincial legislature is about to assemble, and provision must be made to accommodate the increasing number of those who require treatment in our asylums. At present there are practically no vacancies in any of them, and the lunatics confined in jails on Dec. 31, 1899, numbered 89. It is very probable that the government will ask, at the coming session, for a large appropriation to turn the old Victoria College at Cobourg into an asylum for epileptics and very mild cases of lunacy. To meet the increase, alterations are proceeding in several of the asylums. There are at present over 700 inmates in the Toronto Asylum, as compared with 643 in 1898. The new asylum in Brockville is already filled, with 600 patients.

COUNTY MEDICAL HEALTH OFFICERS FOR ONTARIO.

That the above is likely soon to become a question of practical politics in Ontario may be gathered from the interest the provincial lay press is devoting to the subject. Lately there has been a rather extensive outbreak of smallpox in North Essex; and the county paper of that district says that had there been a competent county medical officer with power to act promptly, much could have been accomplished in the way of prevention of the spread of the disease. At present physicians are appointed by the municipalities in the respective counties, whereas, if each county had a properly constituted officer, devoting his whole time and attention to the work in hand, it would be done thoroughly and fearlessly, without any dread of offending certain individuals and corporations. It is stated that in the recent outbreak of smallpox in Essex, the ordinary physicians had no desire to look after those afflicted with the disease, and in all probability it was due in a large measure to this diffidence that something like 250 cases of the disease occurred in that county. For some time the secretary of the Provincial Board of Health, Dr. Bryce, has advocated the appointment of these county officials, and as the matter was up for discussion at the last session of the legislature, it is altogether probable that a fuller and freer consideration of the whole subject will be gone into on the part of the representatives of the people.

BIG DECREASE IN ONTARIO'S BIRTH-RATE.

Dr. Bryce, the deputy registrar-general of Ontario, has prepared the following statement, based on figures now being prepared for the report of the registrar-general: Over a period of ten years, in an urban population estimated (1891) at 407,058, and during which the yearly census has shown an increase of 25.6 per cent., there has been an absolute decrease of births in the thirteen chief cities of Ontario, from 10,819 in 1889 to 9111 in 1898, or a difference of 1708. These cities are: Toronto, Hamilton, Ottawa, London, Kingston, Brantford, St. Thomas, Guelph, St. Catherines, Belleville, Stratford, Windsor, and Chatham. Had the rate of increase of registration from 1889 to 1898 been the same as that in the population for the same period, there would have been registered, in 1898, 12,709 births instead of 10,819. Toronto is cited as an illustration of the defective system of registration. During the ten years there has been no change in the incumbency of the office of registrar; and the population has increased by 47,065, though the births show an absolute decrease of 824; or there were 20 per cent. more births registered in 1889 than in 1898. If, however, the population, according to the municipal returns, be taken into the calculation, viz.: an increase from 139,452 in 1889 to 186,517 in 1898, then had the rate in 1889 been maintained, there would have been 6,615 births registered in 1898. In other words, a relative decrease of 64 per cent. has occurred in the birth-rate of Toronto during the last ten years. This then is the state of affairs only three years after the provincial legislature passed the act of 1896 which provides that division registrars shall use all available means to obtain the necessary information in regard to such births, and shall receive 20 cents for each return, to be paid by the municipality, and that the parent, nurse, midwife, or physician in attendance should give notice thereof to the division registrar within thirty days from such birth. It seems obvious that some other machinery than that at present employed in cities is absolutely necessary if complete returns are to be expected.

CHARLOTTETOWN HOSPITAL.

The report of this hospital, for 1899, shows that 185 patients were received during the year. Of this number 100 were paying patients. Besides these there were 46 outside patients, to whom medicine was dispensed gratis during the year. There were 60 surgical operations and 4 deaths; 13 remained in the hospital at the end of the year. This hospital is the largest in P. E. I.

DR. W. G. NICHOL, Montreal, has been appointed supervising medical examiner for the Royal Arcanum in the Province of Quebec.

IT HAS been proposed that the medical societies appoint a bacteriologist, who may be employed by the milk dealers to make bacteriologic examinations of milk.

DR. W. W. CHIPMAN, of Edinburgh, has been appointed assistant gynecologist to the Royal Victoria Hospital. He is at present assistant to Professor Simpson and to Dr. Barbour.

M'GILL MEDICAL SCHOOL.

Friends of this institution are especially grateful for the recent gift of $100,000 to be devoted to building new laboratories for the departments of chemistry, anatomy, pathology, and physiology. The registration in this school for the current year is 451, the entering class numbering 132. A number of McGill graduates are serving the government in the Transvaal. A new course has been opened, that in hygiene and public health, under the special supervision of Prof. Wyatt Johnson. At present no university on this continent is giving such a course, the one started some years ago by the University of Pennsylvania having been giving up for lack of attendance. The number taking the course this year is limited to members of the medical faculty, who will help in the organization of the work. Next year the course will be presented especially for post-graduates who are interested in the work of health boards, public medicine, etc.

Correspondence.

The Elimination of Tuberculosis Out in the "Open."

DENVER, COLO., Jan. 27, 1900.

To the Editor:—"A hint to the wise" comes from the cattle ranges of the West. It is embodied in an address by Dr. Charles Gresswell, former state veterinarian of Colorado, which address was delivered at the recent National Live Stock Convention held at Fort Worth, Texas. It was on the subject of "Tuberculosis from the Range Standpoint." The author is one whose conclusive opinions should be highly valued by every reader of THE JOURNAL. His father, two brothers and himself were all well known in the fields of veterinary surgery and comparative pathology in England In Colorado, Dr Gresswell has distinguished himself for his clear insight in quarantine matters and the contagious diseases among animals.

I was cognizant of the instance of the twenty head of Shorthorn tuberculous cattle, he refers to. I went with him to see the last of them. Except for the enlarged glands under the jaws, those animals did not look so bad, yet one of them, a cow, gave a temperature of 109° F., after the tuberculin hypodermic. But by closer observation, râles, rhonchi and broncho-vesicular breathing could be heard in the chest. Most of the bulls of this family had been sent out on the range. I knew of some of their earlier progeny, from over in the Bear River country, that were fine fellows, the steers of three years selling as four-year-olds.

As we were leaving that farm, which was between Denver and the mountains, I remember Dr. Gresswell saying: "Wouldn't it be remarkable if the owner—himself coming to Colorado a consumptive—had, by expectorating on the grass or hay, infected his own herd, while he himself has apparently recovered from the disease?" The Doctor believed, however, that the continued in-breeding and the close confinement of this herd had resulted in their complete infection, as will better appear from his paper. It should be noted that the original stock, over-bred before leaving the British Isles, had never been reinforced by new blood in America.

This excellent lesson and plan of cure is commended to the careful consideration of those Eastern physicians who are possessed with the latest fad, the home treatment of consumption in sanatoria, near or in the cities where they respectively reside. If those philanthropic gentlemen would spread out their consumptives—the curable ones—over the elevated Western plains, as Gresswell would his tuberculous cattle, they would not need such "closed" institutions, and artificial methods. Dr. Gresswell says, in part:

I will start with the bold assertion that terrible as the disease is in its effects on both animals and mankind, yet to the range cattle industry proper it has no danger whatever, and neither does the range industry need any protective quarantine against it, nor would any quarantine measures be practicable, even if they might be considered necessary by some alarmists.

This assertion is a cold one and especially coming from me, probably one of the first over twenty years ago to draw attention to the widespread existence of tuberculosis in the high-bred beef and dairy herds of Great Britain, and to the danger which existed from the communicability of this disease to mankind, and the necessity of severe measures toward its suppression.

Since that time the intercommunicability of the disease between man and the lower animals, and the identity of the disease, whether found in man, cattle, hogs or poultry, have been fully established beyond question of doubt. It has further been demonstrated that the direct cause of the disease is the presence in the blood and tissues of a micro-organism—the bacillus of tuberculosis—and that this organism is common to all forms of the disease in whatever animal it is found, and that the successful transmission of the disease from one to another depends only on the condition of the recipient.

It is, therefore, I repeat, a bold statement to make, that the disease, contagious as it is known to be, and so terrible in its effects when once it is established, has no terror for the range cattle owner, and that he needs no state or federal protection from its ravages. . . .

Although the direct cause of tuberculosis is the admission into the system of the specific germ, yet its pernicious action depends so much on the manner in which it gains access to the victim, and the condition of the recipient, that it may be said that conditions form a more potent factor in the ultimate causation of the disease than the germ itself. So common is the disease in civilized life that were it equal in potency for evil to that of rinderpest, or pleuro-pneumonia of cattle, or to the germ of smallpox or scarlet fever of man, not a hoof of cattle or a living man would be free from infection twelve months from date. When it is realized how common the germ is, and how intercommunicable between different species of animals, and how insidious it is so frequently in its action, it will be evident how hopeless it is to expect to do much toward limiting exposure by quarantines, and how much rather it is necessary to base preventive measures against those conditions under which the germ becomes effective. . .

The disease is seen with great intensity equally in the highest grades of cattle, as in the retrograde monkeys of a traveling menagerie; in the degenerate Indian, as in the inbred highest social families of the Old World. Wherever the conditions of life are unnatural, from inbreeding, intense breeding, excessive development of one set of organs of the body over those of another—as exemplified in the highest grades of dairy cows—and wherever these conditions are associated with overcrowding, or a generally unhealthy method of living, the germ of tuberculosis finds a hotbed for its certain fructification.

On the other hand, where growth is more uniform, and the condition of life more in accordance with natural customs of the animal, it is difficult for the germ to cause the slightest disturbance. In a word, in some cases the germ is exceedingly contagious, whereas in others, it is very feebly infectious even if at all.

Extremely susceptible subjects to tuberculosis are also produced in the artificial management, commercially necessary in the economical production of dairy products, yet we can not afford to revert to the more natural dairy cow of years ago. Now, all the favorable conditions for the fructification of the tuberculosis germ are absent on the range, and so adverse are range conditions to the disease that it may practically be considered non-contagious thereon. It is extremely doubtful if any active subject of the disease could communicate it to other animals under range conditions; and even if it were communicated in an isolated case through a peculiar combination of favorable causes, it could not spread. The acute cases would either rapidly die from exposure or get sufficiently well to be free from infective qualities. Susceptible subjects to tuberculosis will not live on the range, and the germ itself, when free from an infected animal, will not survive long enough in potent form to damage other animals liable to come in contact with it. The two main elements of the contagion are wanting—the proper receptivity of the animal and the potency of the germ.

Some years ago I followed the history of a herd of some twenty head of Shorthorns, all more or less tuberculous, which were thrown on the open range. Three of the advanced cases died in a short time. The rest gradually improved in condition, and continued to breed with no bad result whatever to their offspring or to other stock. Some years later I witnessed the slaughter for beef of some of the original herd, and some of the offspring of the bulls out of other cows. Healed traces of disease appeared in some of the old herd, but no trace in the offspring.

For the reason, therefore, that the disease on the range is so little, if at all contagious, it may be assumed that the inauguration of any quarantine measures is entirely unnecessary. The impossibility of detecting tuberculosis in the case of large movements of cattle from one Western state to another renders the maintenance of a quarantine utterly impracticable. A physical examination will only reveal the most advanced cases, which would in most instances be cut out by the trader.

The majority of cases are impossible of detection by any outward examination, the only possible method being by the tuberculin test. . . .

I trust I have made it clear that the range cattle owner has little to fear from this disease, the bugbear of the advanced dairyman and the sanitarian of to-day. Recollect the disease is no new thing; it has always existed and will always exist wherever cattle are domesticated and men are civilized. It is one of the results of a rapid artificiality following a natural life, and the true solution of its control will not be in vain attempts to annihilate the germ, but in the discovery and utilization of those conditions of natural life which we have up to date lost and failed to replace in our present states of domestication and higher civilization.

What inference, as to human beings, may be drawn from Dr. Gresswell's range experience? What except that the domiciling of human beings, as with the housing and domestication of cattle, has *something* to do with their degeneration! It seems to be a question of ventilation made defective either inside or outside the lungs. It clearly does not make so much difference whether the defective ventilation is *in* the lungs—lack of use—or *outside*—impure air, because of our confined or too small abodes—the result is the same as to the consequent blood dyscrasia. That is it—a poisoning of the blood through vitiated air. We can admit that other diseases—as syphilis—are perpetuated through inheritance, and that like dyscrasias in both father and mother are accentuated in the offspring, yet this vitiated air-cause of tuberculosis still holds sway, only increased in its patency by such outside helps. It is a condition precedent to the bacillus—a condition which would be nearly as potent for evil if every bacillus of tubercle in the universe were this minute blotted out of existence. Have we any proof that the same dyscrasia would not soon develop into the same tuberculosis under such an assumed state? None whatever. Then why be so concerned about the germ?

Nothing is meant to be said against the necessary precautions which all admit must be taken to protect susceptible persons

from infection by tuberculosis bacilli. We should not, however, so magnify their importance as to make us blind to other causes and conditions. It seems that the law of ventilation answers for a judgment against our civilization, defective chiefly because of insufficient breathing-space allotted to each individual, or defective also because of our ignorance of how to breathe. Tuberculosis will never be eradicated by quarantine—whatever is done with the germ—till man knows how to quarantine himself against vitiated air in his own lungs; that is, till this law of ventilation is understood and obeyed.

The increasing congestion of people in commercial centers, and the inadequacy of our habitations for man's needs are more vital questions of the hour than the mere wiping out of the bacillary results of tuberculosis.

CHARLES DENISON, M.D.

Too Many Sections.

ROCKFORD, ILL., Jan. 22, 1900.

To the Editor:—It must be apparent to those who attend the Sections of the AMERICAN MEDICAL ASSOCIATION that there are either too many Sections, or too few members to some of them. Who has not witnessed the painful spectacle of a member with a really meritorious paper, reading with listless emphasis to an audience of three or four—I have seen an audience of two—this product of his study and thought?

At Columbus, a beautiful hall had been secured for one of the Sections, but the company was so lost in this hall that it adjourned to a committee-room at a hotel, where from two to six patient and faithful members sat and listened to the papers presented, through the three days of the meeting.

Then, too, papers are not properly classified by authors or chairmen and secretaries of Sections, or else a knowledge of this attendance from previous experience induces the readers to seek Sections where *audiences are assured.* Should not a general committee, to whom titles could be submitted early enough, classify these papers so they might appear listed in the Sections to which their titles imply?

Thus, to be general, and by no means personal, for the sake of illustration; Dr. Ott's valuable paper on "The Spread of Contagious Diseases in Schools and Its Prevention" would have been expected in the Section on State Medicine, instead of in Practice of Medicine. The same with Julia W. Carpenter's paper on "Vaccination;" as also Dr. M. P. Hatfield's on "Dynamics of School Puberty;" with propriety the papers on state control of tuberculosis and those on climate and allied topics; the papers on railroad or transportation companies' responsibilities and relations to employees and patrons, should come in this class.

Forensic papers or addresses should be classed with the Section on State Medicine. This Section might well comprise psychiatry and medical jurisprudence, and papers pertaining to neurology should go in Practice of Medicine, with more exact propriety.

By placing gynecology with surgery a more normal classification would ensue, a harmony of interests would go together and the present wants of the profession be better met. Dietetics should belong to the Section on Materia Medica, Pharmacy and Therapeutics, where its efficiency as a means of treatment normally places it.

Obstetrics should go into a section with pediatrics, all obstetric papers being grouped together, and all pediatric ones the same way, so that those interested could be informed when these subjects of their liking were coming, and so could best utilize their time.

Stomatology, a Section admitted by the urgement of evolution, would lose none of its prestige if it were moved over with the Section on Otology and Laryngology; the latter having a national association of its own, the Section would not become crowded by this union.

A new section might be created, of which skiagraphy would be a part and this should embrace the subject of pathology.

It is to be anticipated that there are other coming themes in the onward march of medical progress, for which there must be a place made, and with the side-tracks to Sections now in, the main line will still hold to its right of way on the annual trip and go on with constantly accruing interest and scientific momentum.

D. LICHTY, M.D.

Dosage of Blennostasin.

NEW YORK, Jan. 22, 1900.

To the Editor:—Our attention has been called to a misprint in the third edition of "The Newer Remedies," by Prof. Virgil Coblentz, whereby the dose of blennostasin is given as from 1 to 4 grams (15 to 60 grains) instead of from 1 to 4 grains. Inasmuch as the work had been widely circulated prior to the correction, we would ask you to call the attention of the profession to the error, as the administration of so large a dose would, in all probability, cause serious complications.

Very respectfully yours,

MCKESSON & ROBBINS.

Medicine in the Far East.

CALCUTTA, INDIA, Dec. 15, 1899.

THE CHINESE AND THE JAPANESE.

One of the first things that strikes the observer on landing in China, from Japan, is the apparent difference in the physical stamina of the inhabitants of these two countries. I found by experience that this difference was not only an apparent, but a real one; for the jinriksha man of the "Flowery Kingdom" would carry me nearly twice as far in a day, without fatigue as his pig-tailed prototype across the Yellow Sea was able to do.

After my observation in China, I am inclined to look upon three factors as causative agents in the production of this result: 1. The wide-spread prevalence of malaria, which I found to affect at least one-third of all the sick Chinese I saw in the country. By this term I mean true paludal malaria, and not that false variety that so many of us call into requisition when we are puzzled to make a correct diagnosis in any given case. 2. The terribly dirty and unsanitary condition of the dwellings in which the people live. 3. The wide-spread prevalence of the opium habit among all classes of the population.

When we consider that the two races have probably sprung from a common stock, have drunk for centuries at a common source of learning, and have so much that is common in their religious belief, it is a striking phenomenon that they should be in many ways so unlike each other.

The Japanese is ever on the alert to grasp something of value to add to his stock of learning. The Chinaman, on the contrary, looks askance at everything that is offered him from abroad and views with suspicion everything that has not stamped on it the impress of antiquity. His medicine, as he practices it to-day, is as old as the Christian era. The textbooks that he uses in his common schools consist, in the main, of extracts from the writings of Confucius, or authors that lived before his time.

MEDICAL EDUCATION IN CHINA.

There is no place in the wide world where correct information on any subject whatever is so difficult to obtain as in China, and though what I shall write under the above head has been obtained with no little inquiry and observation, I am prepared to face the fact that men, who will claim to have had equal opportunities with myself, will give every assertion that I could possibly make, the flat contradiction.

Within the whole Chinese empire, with its population of 400,000,000, there are probably not at the present time 500 young men who are receiving a medical education that would be recognized as such in the Western world. Among the Chinese themselves, the practice of medicine is looked on more in the light of a trade than that of a learned profession. The true Chinese scholar who has through years of difficult study achieved a high position in the domain of letters seldom takes up the study of medicine. In fact, he looks on it as a sphere too low for a true scholar to occupy.

So the profession is recruited, in general, from men of a mediocre talent and very little education. A young man who wishes to study medicine apprentices himself to one of these practitioners and after serving an apprenticeship of three years is supposed to be fitted to launch out on his own responsibility. In his course of study, anatomy, physiology, chemistry, or pathology is never taught. The Chinese materia medica is recruited from a very large number of articles, consisting of the tissues of various species of animals, their excretions, as well as a vast array of vegetable substances. While these men know little or nothing of the real action of the remedies they use, they must study with considerable care the dosage of these

agents or their results would be often disastrous to their patients.

CHINESE THERAPEUTICS.

I visited several dispensaries attached to Chinese hospitals, and saw their prescriptions compounded and prepared for use. They were real shotgun affairs, containing from six to twenty-four different ingredients. They were all prepared in the form of a decoction, and the usual quantity of the liquid when ready for use was one pint, which was generally given at a dose during the early morning, and was not repeated again for twenty-four hours.

A complication in Chinese therapeutics arises from the fact that the physician looks on the organization of the two sexes as so different that a plan of treatment adapted to the one is not at all applicable to the other. One of the arguments used by the native doctor against our Western remedies is, that while these agents may be all proper and right for the white race, the Chinaman is so different in his organic make-up, that a plan of treatment that might be proper for the one might be disastrous for the other.

On a shelf in one of these Chinese hospital dispensaries I saw a large bottle containing half a gallon of a dark-colored fluid, in which was macerating a snake about two feet long. The doctor informed me that the liquid was red wine, and that the serpent was a variety of reptile that had wonderful medicinal virtues, and that this wine thus treated was a sovereign remedy for amenorrhea and other forms of menstrual derangements in the female.

I visited some of the hospitals run on true Chinese methods, and saw some of the best men in Shanghai and Hongkong, and the work they do. These men make their visits in the hospital wards, as well as attend to their out-door patients, at an early hour in the morning. They claim that at this time of day they can better judge of the nature of the disease with which they have to deal. An extra charge is made for all visits made to patients at their homes, before noon, as these visits are considered more valuable than if they are made in the afternoon.

With these men the pulse is the only avenue through which they attempt to gain a knowledge of the disease from which the patient is suffering. They place two or three fingers on the radial artery and often spend several minutes in studying the quality of the circulation. They ask the patient his age, occupation, and the length of time he has been sick, and with this examination they seem to be entirely satisfied.

In general, surgery forms no part of the practice of medicine with the true Chinese physician. He entirely dispenses with the use of the knife, except to occasionally open an abscess that is just ready to open itself. In the treatment of fractures, however, he possesses considerable skill, adjusting the two ends of the bones with great care, and applying his splints and bandages in a manner that would do credit to his western confrère. He never attempts any extension in the management of these cases; still, I am told by those qualified to judge that his results are generally good. In cases of severe compound fractures, or other injuries of the extremities, where we would do a primary amputation, he leaves the case to Nature, and saws the bones off after a complete line of demarcation has been formed, and the soft parts have sloughed away. The practice of obstetrics he completely ignores, leaving this branch of medicine to a set of ignorant midwives.

The fear of the knife seems to be inherent in the Chinese race. While I was in Shanghai, a Chinaman was brought into St. Luke's Hospital, with such a severe crushing injury to one of his legs that Dr. Boone considered an amputation necessary. The patient, however, after a consultation with his friends, refused to be operated on and left the hospital to be treated by a native doctor. This kind of occurrence is so frequent in China that it greatly lessens the amount of surgery done in that country. This fear of surgical operations is not caused by a lack of courage on the part of the Chinaman, or his unwillingness to endure pain, for I have often seen him unflinchingly bear the application of caustics, and the use of the thermocautery, and that too with a heroism I have never seen equalled by any other race. It is, however, his ideas as to a future state that make him look with horror on any operation that would mutilate his body. Thus by the loss of a leg or an arm in this world, he believes that down through all the innumerable mutations that he will pass after death he will be a mutilated being.

A vast majority of those who are being educated in medicine, after anything like the plan adopted in the West, are receiving their instruction in the different missionary establishments that are scattered over that vast empire. When we consider the material with which they have to do, the talent that is required to constitute a good teacher in medicine, and the want of proper appliances to illustrate the subject taught, one can readily appreciate what the results are likely to be. At St. John's College, near Shanghai, I saw a medical class of eight young men—the class is limited to this number—being taught in chemistry, materia medica, anatomy, and physiology. In this institution they have a very good set of appliances to illustrate the subjects taught. As no dissections are allowed on the human body, a French manikin, supplemented now and then by the body of a monkey, is the only means they have of teaching anatomy. These young men, before entering on this course of study, must first have graduated in the literary department of this college, and after two years of teaching in the elementary branches of their profession, are taught for another two years by Dr. Boone and Dr. Reed at St. Luke's Hospital, when they are given a degree in medicine. From what I saw of Dr. Boone's work in this hospital, I believe these men receive a very efficient, practical course there. Dr. Mary Gates has charge of the obstetric and gynecologic work in this institution, and while she is teaching several young Chinese women to practice in her department, I doubt whether the young men of this institution receive very much efficient instruction in these branches, owing to the great aversion that Chinese women have to being examined by a man.

At the college proper, I was authorized to say that this is the most thorough course given in medicine anywhere in China. Later I paid a visit to the Red Cross Hospital at Canton, and was given an epitome of their mode of teaching their medical students, comprising a class of about thirty men and six women. When I mentioned what I had seen of the teachings done at St. John's, and the claims of that institution, to the most thorough course given in medicine, anywhere in China, the Canton Hospital's doctors vehemently repudiated the claims of the Shanghai institution. By what I could glean, however, of the means that each has to illustrate its teachings, I am inclined to think that the claims of St. John's College are well founded.

At Tientsin, near Pekin, there is a medical school supported by the Chinese government, and where the faculty are mostly Americans and in which Western medicine is exclusively taught. The class consists of about thirty students, and when they graduate, they are designed for places in the army and navy. Sanitary science is a branch that is taught most thoroughly. This school is well equipped and, excepting that its students have not the advantage of dissecting the human body, in all other respects their course of study is an excellent one. The students, who make up this class are chosen by competitive examination, and as the numbers that compete for the places are very large, excellent men who are found in this.

I saw several of these Tientsin graduates, and, compared with other Chinese physicians, wherever educated, they were the best men that I met anywhere in China. One whom I saw in Shanghai told me that when he went up for the examination to enter this school, he was one of six, and that one thousand young men competed for these places. These young men, after graduating, print on their cards, "Diplomat of the Imperial Medical College of Tientsin," and are ever after recognized as government officials. The educated Chinaman, like our politician at home, has an insatiable appetite for office. In his prayers to his gods, he never forgets to implore them to get him a position in the government service. In Canton I saw the little brick stalls where 11,000 young men were lately incarcerated for three days, undergoing an examination for positions in the government civil service. From these 11,000 applicants, however, there were only eighty-eight places to be filled. After meeting these Tientsin graduates, and observing what a superior class of men they are, intellectually, I regretted that our material at home, to fill the ranks of our profession, could not be chosen in the same manner that these men are.

SHANGHAI GENERAL HOSPITAL.

The first hospital I visited in China was the Shanghai General Hospital, an institution supported largely by the English and American municipalities, that form a union in the management of their affairs in this city. While thirty-nine out of forty of the inhabitants of Shanghai are Chinese, none of that race is admitted to this institution. This city being one of the most important commercial centers in the Far East, and this hospital receiving the sick of every nationality except the Chinese, one finds within its walls as cosmopolitan a class of invalids as it would be possible to imagine. The three physicians who have charge of it are all Scotchmen. In Dr. McLeod, the senior member of the staff, I found a most genial and hospitable man, who received me most cordially and answered my many questions with patience and politeness. In spite of the extreme unsanitary condition of this city, I found here, as in Japan, that typhoid fever is not a prevalent disease among its permanent inhabitants. I saw, however, a good many patients with this complaint in this institution, who had been infected before coming here. Among these were eight lately taken from a Japanese man-of-war. Dr. McLeod's treatment of this disease is expectant in the extreme. If constipation exists, he uses no catharties, but enemas only, to move the bowels. If diarrhea be present, he gives a single dose of some opiate at night. Apart from this he leaves the case entirely to Nature, even ignoring digitalis, camphor, or strychnin, in cases where symptoms of great depression manifest themselves, relying on the use of milk punch to combat symptoms of circulatory depression. He claims that his results have been better under this kind of treatment than when he followed a more active one.

As in Japan, I found here also that true croupous pneumonia is a very rare disease. They have a ward connected with this hospital for the isolation of scarlet fever, and diphtheritic cases. But these diseases are so rare here that the beds in this ward are nearly always empty. While I was in Shanghai a case came up before the mixed court which illustrates the fact, that the heathen Chinese, like his more civilized brother of the Western world, is easily gulled in matters of medicine, and is an easy victim of quackery and quacks.

October 17 was the birthday of the Chinese god of medicine. On that day an enterprising druggist imported from Japan, a fine specimen of a holy deer whose tissues are supposed to be possessed of wonderful therapeutic virtues. To render this beast's body more efficacious, it is necessary to get its blood as hot as possible before it is killed. To accomplish this object an iron was bound on to its head, in such a manner as to press deeply, and put the poor beast into the most terrible agony. After hours of this torture it was strangled to death by the application of a cord around its neck. The pills made from this animal's tissues were widely advertised, and warranted to cure a hundred diseases. The thing was a grand success, but unfortunately for the druggist, he killed this poor beast within the English concession, and some member of the Society for the Prevention of Cruelty to Animals had the Chinese apothecary prosecuted. When the case was tried, the European members of the court were disposed to impose a heavy fine on the offender, but when the Chinese member of the bench explained that this was a long-established custom in China, the man was let off with only a fine of $10, after promising never to do the like again on British soil. W. S. CALDWELL, M.D.

Association News.

Affiliated Societies and the Association.—The following has been addressed to the secretaries of the different medical societies affiliated with the AMERICAN MEDICAL ASSOCIATION:

Dear Doctor:—At a regular meeting of the Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION, held Nov. 10, 1899, at Washington, D. C., I was directed to request one delegate to represent your society at the general meeting of delegates to be called by this committee, to meet in Washington, D. C., some time in January or February, 1900, to act in accordance with the resolution adopted by the AMERICAN MEDICAL ASSOCIATION at the Columbus meeting, June 7, 1899. Many of the secretaries of the societies have replied promptly, sending in the name and address of their delegate, but a few have as yet not responded. The Legislative Committee hereby respectfully requests the societies that have not furnished us with the name and address of their delegate to the proposed meeting, to do so at once, that we may call the general meeting on legislation at the earliest possible moment. The special subjects to be considered at that meeting were specially mentioned in our circular letter to the secretaries, under date of Jan. 10, 1900. You will confer a great favor by responding promptly.

Very truly yours,

H. L. E. JOHNSON, M.D., Chairman.

Deaths and Obituaries.

JOHN CARGILL SHAW, M.D., died at his home in Brooklyn, N. Y., January 23. He was born in Jamaica, West Indies, fifty years ago, was a member of the class of 1874, College of Physicians and Surgeons, N. Y., and at the time of his death was consulting neurologist of many Brooklyn institutions and a professor of nervous diseases in the Long Island College Hospital. As a writer he guarded against over-statements, and as an executive officer was eminently satisfactory, particularly as superintendent of the Kings County Insane Asylum.

JOHN WILLIAM CORRELL, M.D. died in Baltimore, Md., January 20, aged 73. He was born in Winchester, Va., and attended the medical college there and the University of Maryland. He was connected with the medical department of Jackson's C.S.A., later practiced in North Carolina, Wilmington, Del., Tarrytown, Md., and for the last twenty-five years in Baltimore and its suburbs. For three years he had been incapacitated for practice, by a complication of diseases.

ENOCH ADAMS, M.D., Litchfield, Me., died January 23, at the age of 71 years. He was a graduate of the medical department of Harvard University, class of 1851, and during the Civil War was surgeon of the 14th Maine.

MATHEW A. BOOTH, M.D., Newport, Del., died at Washington, D. C., at the age of 81 years, January 23. He was a graduate of the Winchester Medical College, Va., and during the Civil War was acting assistant-surgeon at Hammond General Hospital.

C. B. BOSHBYSHELL, M.D., Glenwood, Iowa, died January 16. The Doctor was born in Pennsylvania in 1833, and graduated from the Jefferson Medical College. During the Civil War he was assistant-surgeon of the First Iowa Volunteer Cavalry and then of the Twenty-third Iowa Infantry.

ALFRED J. WATTS, M.D. died from apoplexy, at his home in Brooklyn, N. Y., January 22. Born in England, in 1825, where he received his medical degree, he settled in Utica, N. Y., in 1848, and here he practiced his profession until about thirty-five years ago. He invented "crystal gold" for teeth filling, which proved a great financial success and induced him to give his entire time to the development of the new process.

COLUMBUS W. KRISE, M.D., University of Maryland, 1871, died at his home in Carlisle, Pa., January 23, aged 52 years. He was born in Gettysburg, Pa., and was a member of the AMERICAN MEDICAL ASSOCIATION and also of the Pennsylvania Medical Association.

A. LEWIS BOUGHNER, M.D., University of Michigan, 1885, died in Chester, Pa., January 16, aged 40 years. His death was attributed to septicemia from a finger wound received three months before.

EARNEST M. GALLION, M.D., Harriman, Tenn., aged 38 years, died near Dundridge, Tenn., January 15. He was a graduate of the medical department of the University of Louisville, class of 1889. He was one of the pioneers of Harriman, and president of the Board of Education.

C. O. MATTHEWS, M.D., Terrell, Tex., died Dec. 14, 1899, at the age of 39 years. He was a graduate of the College of Physicians and Surgeons of Baltimore, Md., class of 1884.

THOMAS H. FRANKLIN died suddenly at Atlantic City, N. J., January 9, aged 59. He was an alumnus of the University of Pennsylvania, and had seen service during the Civil War.

LYMAN RODGERS, M.D., University of Vermont, Burlington, 1858, once president of the Vermont Medical Society and a state senator, died from cardiac disease on January 22.

WILLIAM S. HOUSE, M.D., New York University, 1859, of Haverstraw, N. Y., died there January 27, aged 62 years.

We also note the following deaths:

T. F. Burke, M.D., DeWitt, Iowa, January 23, aged 45 years.

Henry Chapple, M.D., Billings, Mont., in Arizona, where he recently went for his health, aged 30 years.

Dixi Crosby, M.D., New York City, January 20, aged 31 years.

L. F. Corgan, M.D., Woodburn, Ill., January 22.

R. S. Gabbey, M.D., Rossville, Kan., January 25, aged 69 years.

A. Klein, M.D., Corryville, Ohio, January 22.

H. F. Koehler, M.D., Arcadia, Neb., January 21.

Levi H. Lawall, M.D., Bethlehem, Pa., January 24, aged 70 years.

S. F. Milner, M.D., Earl, I. T., January 16, of pneumonia.

M. L. Overton, M.D., Lorraine, N. Y., January 13.

Henry Clay Van Zandt, M.D., Schenectady, N. Y., January 16, aged 56 years.

E. E. Weston, M.D., Pittston, Pa., January 20, aged 48.

Stanley D. Wilkinson, M.D., Barnesville, Ohio, January 19, aged 31.

DEATHS ABROAD.

Advices from Rio de Janeiro, Brazil, announce the death of Dr. Domingo Freire, recently. He was born in Rio fifty years ago, held the chair of chemistry in the Government University and won an enduring reputation for his yellow fever researches.

Three prominent members of the profession in Italy have recently died at advanced ages: L. Brunetti professor of pathologic anatomy at Padua; G. Zoia, professor of anatomy at Pavia, and G. Pinto, of Rome, whose name will always be associated with the reclaiming of the Campagna. The death is also announced of A. Mooren, Düsseldorf, a pioneer in ophthalmology.

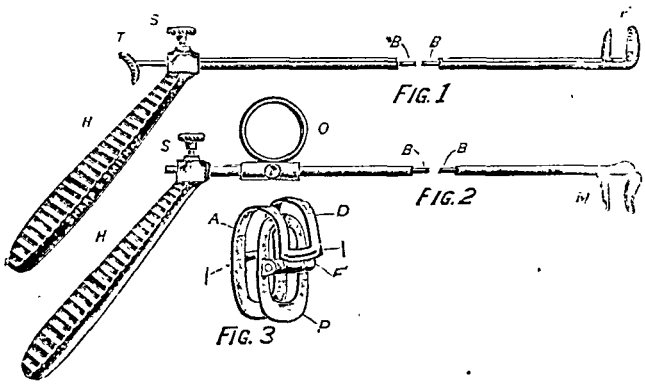
J. R. SHANNON, M.D., Goderich, Ont., died on the 18th ult., of typhoid fever, at the age of 31 years. For two years he occupied the mayor's chair, being one of the most popular occupants of that position, Goderich has seen for many years.

New Instrument.

Automatic Valve Clip.

BY J. RAWSON PENNINGTON, M.D.
PROFESSOR OF PROCTOLOGY, CHICAGO CLINICAL SCHOOL.
CHICAGO.

This mechanical device was designed more especially for making a safe, permanent and bloodless division of annular, semi-annular and other rectal strictures and obstructions located in the middle and upper portion of the rectum. These pathologic conditions are usually built on the semilunar, rectal, or Houston's valves, and are frequently a prime factor in the etiology of chronic constipation, obstipation, intestinal obstruction, mucous discharges, etc. It may also be used for the removal of neoplasms, prolapse, etc.



AUTOMATIC VALVE CLIP, INTRODUCER AND FORCEPS.

Fig. 1 is a valve forceps; Fig. 2, I have designated as the clip introducer. Each is 25 cm. long; H is a reversible handle controlled by the set-screw, S; T is a thumb-rest connected by the slide-bar B, for opening and closing the beak F of the forceps; O is a ring connected by the slide-bar B for opening and closing the beak M of the clip introducer.

Fig. 3 is a mechanical device to be known as an automatic valve clip, and is slightly opened. It is made of spring steel, is 20 mm. long, 11 mm. wide and 8 mm. in depth. *a*, is the permanent plate; *d*, the spring; *p*, the removable plate connected to the spring *d*, by means of the fulcrum *f*; *i*, two bridge holders for opening and applying the clip. The clips are made of different sizes. To apply this mechanical device, introduce a tubular speculum into the rectum, remove the obturator, pass the forceps through the speculum and grasp the structure to be divided. The speculum is then held by an assistant, the clip attached to the introducer at M, opened and carried through the speculum to the pathologic structure, where it is carefully applied. The introducer and other instruments are then withdrawn. The clip is retained in position by means of its spring and automatic action. The section grasped by the clip is destroyed and removed by pressure atrophy.

N. B.—Since having the drawings made, I have adopted a scissors handle for the forceps and introducer.

Columbus Memorial Building.

Miscellany.

Pasteur Institutes.—Lyons has opened a Pasteur institute, the eighth in France; Russia has six; Italy, five; Austria, two. There is one in New York, Chicago, Havana, Rio Janeiro, and Buenos Ayres; also at Saragossa, Malta, Bucharest, Constantinople, Aleppo, Tiflis, and Athens. The *Gazette Méd. de Paris* observes that all of these thirty-three establishments have been founded with the consent and supervision of the pupils of Pasteur, although once started they usually become entirely independent of the mother institute in Paris.

Affections of the Ear and Life Insurance.—Coosemans stated at the congress of medical officers of life insurance companies (THE JOURNAL, xxxiii, p. 1311), that dry affections of the ears have no importance in respect to life insurance, but that a suppurative affection should exclude the candidate unless it heals with *restitutio ad integrum* and especially occlusion of the tympanic perforations. If the suppuration heals but leaves a large, dry, tympanic perforation, an extra premium should be imposed. Buys adds that sclerosis of the ear, inducing deafness, renders the candidate inferior on account of the danger of accidents to the deaf, except in exceptional cases.

Committee on District of Columbia.—For the information of those interested in the defeat of the Gallinger bill, we again mention the members of the committee to which the bill was referred, the personel of the committee having changed. As at present constituted it is as follows: Senator James McMillan, Michigan, Chairman, and Senators J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; Geo. L. Wellington, Maryland; S. R. Mallory; Florida; W. V. Sullivan, Mississippi; W. A. Clark, Montana; Thomas S. Martin, Virginia; Wm. M. Stewart, Nevada, and Richard Kenney, Delaware. Personal letters may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

Bill on Retaining Assistant Surgeons U. S. A.—The following bill (S. 1782) has been introduced in Congress. See p. 292 for action of N. Y. Co. Med. Ass'n. concerning it:

Be it enacted by the Senate and House of Representatives of the United States of America assembled, That all acting surgeons of the United States Army who served as medical officers, agreeably to Army Regulations, either in the Civil War or the Spanish-American War or the Philippine Rebellion, and whose services were honorably terminated, and those acting assistant-surgeons of the army who are still serving as medical officers, be issued warrants by the Secretary of War as acting assistant-surgeons of the United States Army in a similar manner with the warrants issued to the acting assistant-surgeons of the United States Navy by the Secretary of the Navy, the date of their warrants to be the date of their entry into the service of the United States as medical officers and the date when their services as medical officers were or will be honorably terminated to be the date of their discharges from the service of the United States: *Provided*, That no back pay or allowance be made to any such acting assistant-surgeon by virtue of this Act.

Mechanism of the Effect of Rhythmic Tractions of the Tongue.—Laborde recently reported (at the Société de Bio-

logie, *Semaine Méd.* Dec. 27, 1899) that it is not the accession of air into the lungs that restores suspended animation but merely the re-establishment of the respiratory reflex. A tube with a stop-cock was introduced into the trachea of a dog, and the cock turned until the animal was completely asphyxiated. When the contractions of the heart and of the diaphragm had been entirely arrested, except for a slight tremulation in the auricles, perceived by radioscopy, rhythmic tractions of the tongue—without opening the cock in the tube—were sufficient to re-establish the movements of the diaphragm, and soon after of the heart, and the animal was completely restored when hematosis was restored by opening the cock in the tube. This experience fully demonstrates that the re-establishment of the respiratory reflex precedes that of the respiration proper.

Damages of Ten Thousand Dollars for Dog's Bite.—A child a little over 4 years of age was suddenly attacked, while playing with her dolls, by a large St. Bernard dog belonging to their master, that had accompanied two servant girls who had called on, and were at the time in an adjoining room engaged in conversation with, the child's mother. The was torn loose, resulting in a considerable loss of blood, and, it child was ferociously bitten on the face and on the scalp, which was claimed, permanent disfigurement. There was also evidence tending to show that four months thereafter she had spasms, which were epileptic, though there was a difference of opinion brought as to whether they were caused by the attack of the dog. A suit against the owner of the dog resulted in a verdict for $10,000, and judgment for double this amount was entered in the child's favor. But $20,000, the supreme court of Michigan thinks too much, Fye vs. Chapin, and has ordered a remittitur of $10,000 therefrom.

May Disclose What Was Ascertained Assisting Coroner.—When the homicide case of State vs. Vaughan was recently before the supreme court of Missouri for the second time, it was sought to secure a new trial on alleged error in the admission of the evidence of a physician who, at the request of the coroner, made a post-mortem examination of the deceased to ascertain if there were any other cause of death than the wound produced by the defendant on his arm. When asked by counsel for the state to give the result of the autopsy, counsel for the defendant objected, because the law required the coroner to make a record of his inquest, and because the physician could not disclose what he did while assisting the coroner, who was not a physician. The trial court promptly overruled these objections, and the supreme court holds that it was clearly right in doing so. The fact that the coroner was required to make a record, the supreme court holds, in no way affected the competency of the physician to testify to what he found on his autopsy.

Should Allege Assistance.—Under the practice in Connecticut, as perhaps in other states, the plaintiff in an action to recover for goods sold by his salesmen, or labor performed by his workmen in the ordinary manner of such business, would not be required to state in his complaint that he had acted by such agents. But, the supreme court of errors of Connecticut says, in Sayles vs. FitzGerald, physicians do not send agents to perform professional services, such as making calls on sick persons, and in an action for such services which have been rendered by another physician provided by the plaintiff suing to recover for professional services that fact should be stated in the complaint in order to fairly apprise the defendant of what is intended to be proved. And, no such fact being stated in the complaint, the court holds it error against an objection, to permit the introduction of evidence as to another physician having attended the plaintiff's patients on certain occasions during his absence. The court further holds that a physician who assisted another with an operation and testified what was a reasonable price for performing the operation and dressing the wound might, on cross-examination, after having further stated that he received his pay for his services from the attending physician, be asked as to what his own charges for such consultation and assistance were, and whether they were reasonable.

Classification of Action for Malpractice.—Is an action for alleged malpractice as for example for an alleged amputation of an arm without proper care or skill, causing great pain to be suffered and leaving the arm in a very bad condition, "an action for an injury to the person of the plaintiff?" It was so contended as one of the defenses, in the case of Menefee vs. Alexander, and that, therefore, the one-year statute of limitations of Kentucky, covering cases of the latter character barred such an action for malpractice, if not brought within that time. But the court of appeals of Kentucky does not concur in that view. It holds that the case was governed by Section 2515 of the Kentucky statutes which allows actions on implied contracts or for injuries to the rights of the plaintiff not arising on contract and not otherwise provided for, to be commenced within five years next after the cause of action accrued. It says, by way of illustration, that if a druggist should sell a man poison for a harmless medicine, the suit for damages therefor would not be an action for injury to the person, although great suffering or loss of health had resulted from it. The limitation to an action against a physician for improperly treating his patient is the same as that in a like action against an attorney, a teacher, or mechanic for negligence in the discharge of a duty assumed by them.

Sterilization of Hands.—In the *Medical Age* for Dec. 25, 1899, Keen is credited with the following concerning preparation before operations: "First the hands are thoroughly scrubbed in soap and water, after the nails have been cut, if needed. This is the most important part of the preparation. If I had the choice of soap and water, the lime and soda method we use, or potassium permanganate and oxalic acid—one of the three and no more—I should unhesitatingly choose the soap and water. After scrubbing with this the soap and water is washed off with alcohol. Then a dram or so of chlorinated lime and an equal amount of sodium carbonate is placed in the palm of one hand and moistened sufficiently to make a paste. This is rubbed thoroughly into the arms and hands, a bit of orange wood being used to introduce it around and under the nails. The hands and arms are then washed with hot sterile water and finally in bichlorid solution."

Reposition of Anterior Luxation of Humerus by Pulling on the Adducted Arm.—Riedel has been much dissatisfied with the results of operative treatment of old luxations of this kind. In one case he had to ligate the axillary artery, and in another the patient succumbed to an after-hemorrhage. In four cases resection had to be performed on account of complications and gangrene of the head. Seven were primarily resected. The functional results were not very favorable. He therefore recommends (*Cbl. f. Chir., Heilkunde*, October, 1899) a new, simple process with which he has been unfailingly successful in 150 cases. It must be applied within the first forty-eight hours, with the patient thoroughly chloroformed after a previous injection of morphin. The arm is merely pulled with a strong pull lengthwise, slanting toward the pelvis on the sound side, when the head springs spontaneously into the cavity. He explains the mechanism as the fall on the shoulder, to which the largest majority of anterior luxations are due, pushes the head out over the inner edge of the cavity. The humerus then hangs by a strip of tendon in the center, reaching from the acromion, and when the muscles are completely relaxed in narcosis, this tendon is its only support. When pulled, the humerus tends to assume a position parallel with this tendon and rotates on it, which brings the head into its normal position in the glenoid cavity.

Operation for Hallux Valgus.—A modified operation for this condition is described in the *Brooklyn Med. Jour.* for January (p. 48). Fowler makes a transfixion incision, "the knife entering the plantar surface between the great toe and its neighbor, one-half inch proximad to the metatarso-phalangeal joint and emerging on the extensor surface just external to the extensor surface of the great toe. The soft parts are divided in the line of the web. The great toe is adducted and the external lateral ligament divided, thus allowing complete inward dislocation of the toe and exposure of the enlargement on the head of the first metatarsal. A triangular-shaped piece of bone is removed, including the exostosis. The parts are restored to their normal relationship and, if necessary, the extensor tendon lengthened through a second incision at a distance

from the original one, thus avoiding any risk of infection in the tendon sheath." The procedure is essentially that devised by Fowler a number of years ago, with the exception that one transfixion incision is used and the lengthening of the tendon is done at a distance. Uniform success, both as to functional results and freedom from pain has followed in all cases that the writer has had.

Delaying Message to Doctor.—A man attacked in the evening with right oblique inguinal hernia, had a telegram sent at about 11 o'clock to a doctor about eleven miles distant, which was not delivered until about 7 o'clock the next morning, although the doctor lived within four blocks of the telegraph office, was known to the operator, had telephone communication with his office, and was within the free-delivery limits of the city. Besides, it was shown, in the action subsequently brought by the patient to recover damages from the telegraph company, that the doctor was at home, had no professional engagements, was ready to meet the call, had it been presented, and did on receipt of the message the following morning go to attend the case. The message, in addition to summoning the doctor, advised him that it was a case of rupture. The telegraph company admitted its negligence, and made no excuse therefor, but insisted that the sufferer was entitled under the contract to but 25 cents damages, being the amount paid for the services in transmitting the message. There was a jury trial, and a verdict for $1400, from which a remittitur of $50 eliminated the allowance on account of the surgical operation, though it would seem that there was evidence to have sustained this item. Now the court of appeals of Kansas affirms the judgment of the lower court; appeal of Western Union Telegraph Company vs. McCall. It being beyond controversy that damage had been suffered which was a natural and proximate result of the negligent act of the company, the court holds that the amount thereof was properly left to the good sense and sound judgment of the jury. Nor is it willing to say that the finding here was excessive. And it intimates that the allowance of the $50 referred to was legal, notwithstanding the contention that the operation was not made necessary by the company's negligence. It takes this view because it thinks that it was a question for the jury to decide whether under the evidence about the uncertainty of such cases, the delay made the operation necessary or not.

May Practice Under Diploma in Texas.—The supreme court of Texas has reversed the court of civil appeals on the question of the right of a physician who has a diploma duly recorded, but who has not had recorded a certificate from an authorized board of medical examiners, to recover for medical services rendered by him. The supreme court remarks that there is an apparent inconsistency between the provisions of the civil statutes and those of the penal code, which it says that it has found somewhat difficult to reconcile on satisfactory grounds. But, clearly, it adds, the penal code does not prohibit a physician from practicing his profession who has received a diploma from a proper college, and who has had it properly recorded. Nor is there any express prohibition in the civil statutes. And the purpose of the omission from the Revised Statutes now in force, of article 3638 of the Revised Statutes of 1879, which clearly made practicing without a certificate unlawful, the supreme court suggests, would seem to be to bring the provisions of the civil statutes in consonance with the criminal statutes upon the same subject, and to make it not unlawful for a physician having a duly-recorded diploma from a proper college to practice his profession. It also suggests that it may have been deemed wise to leave the provision standing which made it the duty of the medical boards to examine all physicians who should apply, whether with or without diplomas; for the reason that some physicians might prefer to take out certificates, rather than rely upon their diplomas to fix their status as legal practitioners. In the case before the court, of Wilson vs. Vick, to sustain his right to recover for medical services rendered by him, the physician in question averred that he was entitled to practice his profession by virtue of a regular diploma granted to him by the Vanderbilt University, of Nashville, Tenn., the said university being a university of the first class, and being a medical school recognized by the AMERICAN MEDICAL ASSOCIATION, which diploma he had caused to be duly recorded in the office of the district clerk of the county. However, this plea, the supreme court intimates, was probably not good, as against a proper objection, as it should have been averred that Vanderbilt University was chartered by the legislature of the State of Tennessee or its authority.

Reciprocity of State License.—The following resolution was adopted by the Illinois State Board of Health, Oct. 10, 1899.

Resolved, That applicants for a state certificate to practice medicine and surgery in the State of Illinois, who have been examined and licensed by other state examining boards maintaining standards not lower than those provided for in the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, shall be granted certificates without further examination, on payment of the fees required by the Act, providing that the applicant, who must be a graduate of a medical college in good standing with this Board, shall present with his license, an affidavit from the president or secretary of the state examining board showing that the requirements of said examining board at the time of his examination were equal to those exacted by this Board under the present law, and providing further, that the said state examining board will grant licenses without examination to applicants holding certificates issued by the Illinois State Board of Health under the act now in force.

NOTE.—Under the provisions of the Act to Regulate the Practice of Medicine in the State of Illinois in force July 1, 1899, an applicant for a certificate to practice medicine and surgery in the State must present evidence of being a graduate of a medical college in good standing as may be determined by the Board, and must pass an examination in those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States.

No medical college will be considered in good standing after January 1, 1900, which does not require of all graduates receiving diplomas after that date, as a condition of graduation, an attendance upon four full courses of lectures in four separate years. (See also, THE JOURNAL of Nov. 11, 1899, p. 1226.)

Case to Order Physical Examination.—A day or two after a man met with an accident alleged to have been due to the negligence of the city in allowing a sidewalk to get out of repair and remain so, his wife, at his request, called on one of the aldermen, and asked him to send the city physician to treat the case at the city's expense. The city physician being absent from the city, the alderman sent another doctor in his place. The latter attended the case for some time, during which he made two or three physical examinations of his patient. Then, the latter, becoming dissatisfied with the treatment, employed another physician in this one's stead. Later, he sued the city for damages—Wanek vs. City of Winona. After he had served notice of his claim against the city, presumably, the city attorney called with the doctor who had been discharged, and demanded that the doctor be allowed to make another examination, which the man declined to permit, and the trial judge subsequently declared that he would not order a physical examination in the case, even if he considered that he had the power, which he did not. The supreme court of Minnesota holds that this denial of an application for an order requiring the plaintiff to submit to a physical examination was error. Assuming that the examinations by this doctor, in the course of his treatment, were to be considered as made at the request and in behalf of the city, still, being made before it knew what injuries he would claim in his complaint, the court makes a point of the fact that they could not have been specifically directed to ascertaining whether those particular injuries had or had not been sustained. Again, in view of the case, the developments during the intervening six months, it says, would be most valuable, if not essential, in ascertaining the severity of the injuries, and whether they were permanent. And for these reasons, it holds that the application should have been granted.

Treatment of Diseases by Light.—The Advance Sheets of Consular Reports, Dec. 29, 1899, have the following, under the above heading: Minister Swenson sends from Copenhagen, Dec. 2, 1899, a letter to a Minnesota physician in reply to in-

quiries as to the treatment of certain diseases by concentrated light rays. The letter reads:

Dr. Finsen's Light Institute was founded in 1896, for the purpose, as expressed in the articles of incorporation, of making and encouraging investigations regarding the effects of light on the living organisms, especially with the view of utilizing light rays in the field of practical medicine.

The corporation numbers among its members men of eminence and recognized authority in the medical profession, such as the professors of the University of Copenhagen in pathological anatomy, anatomy, and common pathology; and the superintendents of the leading hospitals in Copenhagen.

The institute has gained the confidence and aroused the interest of the public to such an extent that it now receives State as well as municipal aid in the way of appropriations. Its success and growth have been phenomenal. Altogether, some three hundred and fifty cases of lupus vulgaris have been treated, in all of which satisfactory results have been obtained. A large number of cases have been treated experimentally for other diseases of the skin, among them erysipelas and alopecia areata. Scarlet fever is to be experimented with. In an interview which I had with Dr. Finsen a few days ago, he told me that the light treatment as now perfected is so effective that there is reason to believe that every case of lupus vulgaris can be cured by means of it. Dr. Finsen's successful treatment of smallpox by means of red light is also very interesting and ought to be widely known.

Both sunlight and electric light can be used for medical purposes. Owing to its latitude, Denmark is not favorably situated for using sunlight: hence the institute makes nearly exclusive use of electric light. The arc lights used are each of 4000 candlepower (ordinary street arc lights are from 2000 to 4000 candlepower). Earlier experiments with this method of treatment have failed because the light used has not been powerful enough.

Dr. Finsen is also experimenting with photo-chemical baths to ascertain how far light is instrumental in supplying the skin with blood. He says that the red color of the exposed parts of the skin is caused principally by light. Heat seems to hinder, and cold to further it.

Poor Opinion of Opinion Evidence.—In Baxter vs. the Northwestern Railway Company, the finding of the jury that the plaintiff's spinal cord was permanently impaired seemingly rested on the uncorroborated opinion of one expert witness, which was inconsistent with, and demonstrated to be wrong by, undisputed facts and all the reasonable probabilities, besides being opposed by three equally competent witnesses whose evidence was in harmony with such facts and probabilities. In such a situation, the supreme court of Wisconsin holds, a verdict can not stand. It says that mere opinion evidence, at best, is to be received and scrutinized with the greatest care. It is, ordinarily, the most uncertain kind of evidence that can be produced, and falls to the ground as utterly worthless when inconsistent with undisputed facts or with reason and common sense as applied to other creditable evidence. Opinion evidence alone is not conclusive in any case. The jury must pass upon the probabilities, and unless the opinion relied on is within scope of reason and common sense, it should not be regarded at all. If that were not so, continues the court, injustice would often rule in the jury room, because, in a case like this, or any case involving a personal injury, there is no theory so preposterous but that men can be procured to support it under oath from the witness stand by expert evidence. On questions involving skill and experience in such matters, experts must be called from the necessities of the case, for want of better evidence, and when stripped of all the elements of the mere conjecture, and pretense, and partisan influence, it is invaluable, and what is left will rarely appear improbable to ordinary comprehension. It is the duty of the courts and juries to do that,—to subject expert opinions to all reasonable tests to determine their credibility. Again, the court more specifically says that, as before indicated, the ease with which experts can be arrayed on each side of a controversy, especially where the human anatomy and human afflictions, their cause and probable results, are the subject of judicial inquiry, and two theories be sustained by the evidence of reputable men skilled in their calling, each theory fitting with exactness the necessities of the side on which it is advanced, is an unexplainable phenomenon which all have experienced who have had much to do with the trial of cases. It seems that if a person is called as a witness to support one side of a controversy by opinion evidence, he is quite likely to espouse such side with all the zeal of blind partisanship, to view the situation from the point of interest and necessity of that one side of the controversy with such a degree of mental concentration as to shut out of view everything not within that narrow focus, inducing a mental condition of entire incapability of giving an independent, impartial opinion, and capability only of acting in the line which the interest of the one side suggests, with as much certainty as the hypnotized follows the mental suggestion of the hypnotizer. Opinions of experts must be tested by the same methods as other evidence for the purpose of determining their credibility, keeping in view that one fact is of greater weight than any amount of conjecture. What is here said, the court adds, should not be taken as disparaging at all the legitimate use of the results of study and experience in special lines. Such results are very helpful, and in many cases absolutely necessary, in judicial search after truth. When a skilled witness can be kept within his legitimate sphere of impartiality, like a jury or a judge, his evidence will elicit the respect, which is due from all, to the results of study and experience.

In Congress.—The following bills, of interest to physicians, have been introduced in the present session of Congress: by Mr. Crowley, No. 5563 H. R., which provides for the payment of the sum of $377.50 to the two surviving children of Shubal York, late surgeon of the 54th Ill. Vols.; by Mr. Bromwell, No. 5774 H. R., which provides for the payment of medical expenses of sick officers and enlisted men of the army while absent from duty with leave or on furlough; by Mr. Shafroek, No. 6065 H. R., which provides for the erection of a monument in Washington, D. C., to the memory of the women who, during the Rebellion, attended and nursed the sick and dying soldiers of the U. S.; by Mr. Lloyd, No. 6232 H. R., which provides an amendment to Section 1320 of Chapter 4 of the Revised Statutes of the U. S., prescribing the oath of a cadet so as to prevent hazing—the amendment adds: I will abstain from the practice of hazing in any form while at the academy. Mr. Young, of Pennsylvania, introduced one (No. 6869) which provides for establishing, under the U. S. Treasury Department, a bureau of health as follows—Be it enacted by the Senate and House of Representatives of the U. S. A., in Congress assembled: that to protect the health of the public; to encourage the adoption and enforcement by states of uniform laws of health and hygiene; to encourage individual coöperation; to collect statistics of births, deaths, and preventable diseases; to furnish information having a tendency to prevent the development or propagation of disease, especially those due to inheritance; to conduct investigations having a tendency to protect the public health, the President shall, by and with the consent of the Senate, appoint a commissioner and health officer, the latter to be a qualified physician in good standing, of not less than ten years' practice. They shall receive a salary of $5000 annually. The commissioner may appoint one or more expert physicians, who must be graduates of medicine of not less than ten years' practice. They shall receive the sum of $25 per diem and traveling expenses when on duty. The commissioner shall appoint a chief and other clerks and employees needed, who shall receive such salaries as may be determined, that, in case of threatened epidemic, the President may call the surgeons-general of the army and navy and marine-hospital service, commissioner, and health officer to have charge of the subject; that the sum —— thousand dollars is hereby appropriated to carry this act into effect; that the commissioner shall formulate such rules as may be required. Mr. Young also introduced No. 7082 H. R. providing for the purchase of certain buildings and grounds for the use of the U. S. Army Dispensary. Mr. Hull introduced No. 6379 H. R., which provides for the employment of women nurses in military hospitals of the army. Mr. McClellen, by request, introduced No. 7017 H. R., which provides for amending the statutes relating to patents relieving medical and dental practitioners from unjust burdens imposed by patentees holding patents covering methods and devices for treating human diseases, ailments, and disabilities. Senator McMillan is responsible for No. 2551 S., which provides for the establishment of an inebriate asylum in the District of Columbia, the chief executive of the asylum to be a superintendent, to be ap-

and shall, subject to the approval of the directors, engage and discharge all the employees of the asylum and determine their wages and duties. He shall be the responsible disbursing agent of the asylum, giving bond to the satisfaction of the directors, and shall be ex-officio secretary of the board. Seven citizens of the District of Columbia, of whom at least three shall be physicians engaged in practice for more than five years, shall be appointed by the President and board of directors. The judges of the police court shall in addition be ex-officio members of the said Board, which shall make all needful by-laws for the government of the asylum and for carrying out the purposes of its creation. The superintendent shall receive and keep in custody until they are cured, or discharged by order of the Board of Directors or by order of the court by which they were committed, all persons committed to him for treatment as inebriates by order of the Police Court of the District of Columbia, or by the voluntary request of the party to be committed for treatment for inebriety, said request to be in writing in such form as the directors may require. The directors may make such reasonable and just regulations as they may think best, requiring payment in case the party is shown not to be indigent and able to pay. Proceedings to commit to the asylum shall be by information in the police court, to be filed by the attorney for the District of Columbia, charging the defendant to be a habitual drunkard, said intimation to be tried as are other cases in said court. (See also, pp. 307 and 313.)

DIAGNOSIS OF AND OFFICIAL INSTRUCTIONS IN REGARD TO THE PLAGUE.

The German National Board of Health has issued a circular of instructions exclusively for physicians, which is published in full in the *Muench. Med. Woch.* of January 2. The differentiation of the first cases is of vast import. In former epidemics even prominent physicians failed to recognize it when it appeared, and diagnosed the disease as carbuncle, glandular affection, congestion of the lungs, typhus, anthrax or intermittent fever, and persisted in their error until the accumulation of similar cases, the mortality, the evident contagious character of the affection forced on them the conviction that they had some mysterious, extraordinary disease before them. It affects both sexes, young and old, and every social class, although it usually appears first and is most malignant in the homes of the poor and insufficiently fed. The outbreak of the disease proper is preceded by lassitude, depression, pains in the lumbar region, increased thirst and diminished appetite. It frequently begins quite suddenly. Stinging, burning, or dull pains at the point which corresponds then or later to the bubo, the inflammation of the glands or the pneumonia, may be the first manifestations of the disease, soon accompanied by chilliness amounting to a rigor, and consecutive fever. The latter may exist for several hours or days before the local manifestations develop. The commencement of the disease is almost invariably accompanied by a sensation of vertigo in the head, which may increase to resemble a severe intoxication, with the external indications of extreme stupor, and loss of control over the limbs, and then pass away. Nausea or vomiting frequently accompanies the vertigo. When the patient reaches the physician the clinical picture in severe cases is usually fully developed. The patient produces the impression of a drunken man: the vacant stare; the face bloated, flabby, expressionless: the extremely bloodshot eyes; the thick, stammering speech, and uncertain, staggering gait. This impression is enhanced by the abrasions and bumps caused by the stumbles and falls of the patient. The tongue looks as if it were whitewashed with lime, or occasionally red and knobby like a raspberry. The skin is dry over the entire body and burning hot, or it is merely hot on the face and trunk, while the pulseless limbs are already cold and covered with a sticky sweat. The respiration is labored, sighing; the heart-beat much accelerated; the arteries relaxed; the radial pulse dicrotic, full or already thready, near extinction, while the heart-beat is still vigorous. Put to bed, the patient lies dormant in extreme exhaustion, whispers low or talks confusedly to himself or tosses restlessly on the bed with loud delirious ravings, or if he is not prevented by the attendant or fastened to the bed, gets up and wanders restlessly about in a wild frenzy, and makes efforts to escape. With careful scrutiny it is possible to detect the local disease focus even in the first hours, and thus approach the correct diagnosis. A freshly swollen gland, or a pustule on the skin are the indications of commencing inflammation of the lungs, belong to the developed clinical picture of the plague, which can thus appear as gland plague, skin plague or lung plague. Plague of the alimentary canal has only hitherto been established in animals The gland plague or bubo usually appears in the inguinal region, but also frequently in the axilla and in the neck, especially with children. In a few cases it has been noted on the back of the head, on the elbow, the popliteal space, the anterior or posterior ear glands, the hyoid glands, etc. Frequently the superficial glands are only slightly inflamed; the disease process seems to have jumped them and affected the deeper glands, the second or third class glands, which develop into buboes. For instance, the femoral glands may be unaffected, while a large iliac or lumbar bubo may be palpated like an appendicular tumor through the abdominal wall; or a cervical gland may be only slightly swollen, while an area of dulness in the clavicular region and symptoms of compression in the cervical organs may reveal the formation of a bubo in the upper portion of the thoracic cavity. The separate enlarged glands can be distinctly palpated in the bubo, or the inflammation of the interstitial tissue may have bound them into a thick bunch which can only be vaguely distinguished from the surrounding tissues, and is frequently surrounded by doughy edema extending far around and involving the skin. The sensibility of the bubo to pressure is usually much more than the spontaneous pain, so that the patient, by favoring the bubo by the position of the limb, experiences no pain. A small bubo is frequently not even noticed by the patient and his attendants, so that every gland that can be reached should be carefully and repeatedly investigated by the physician. Plague pustule and carbuncle are rare in comparison to the bubo. They begin with a small spot like a flea's bite anywhere on the body. The spot smarts sharply and soon develops into a larger or smaller blister with a cloudy fluid. The pustule either stops at this stage, or the subjacent tissues harden and soon become transformed into a deep carbuncle, progressing to a gangrenous ulcer. Inflamed lymph vessels frequently lead from the pustule to the nearest cluster of glands, and a bubo may then develop in them. A bubo may also develop in the vicinity of a carbuncle. Buboes, pustules and pneumonia may appear from the first, at the commencement of the disease, sometimes before the fever, or they may become evident a few hours or days afterward, seldom later than the third day. In all forms of the plague the early weakness of the heart is noticeable. In all, symptoms of irritation in the alimentary canal are evident at first, with sensitiveness to pressure in the upper abdomen and cecal region, violent vomiting, later also the passage of black fecal masses. With considerable regularity there has also been observed a slight degree of tympanitis; a soft, palpable or percussionable swelling of the spleen, and traces of nucleo-albumin and serum-albumin in the urine. Vomiting of blood or blood in the urine is rarer. A diphtheritic affection of the tonsils is frequently noted early. There is almost constantly more or less conjunctivitis, which is frequently and rapidly complicated with keratitis and may lead to the complete suppuration of the eye. Punctuated or striped hemorrhages in the skin and mucous membranes have been noted with varying frequency in different epidemics. In the course of the disease the lymph vessels beneath the buboes may become involved in the inflammation, and new buboes may develop elsewhere in the body. In the treatment, a good bed, fresh air and cool baths are the most important. The intense thirst should be freely gratified. Cold water, acid drinks and milk are most relished by the patients. Alcoholic drinks are rejected by many physicians. Cleansing the digestive organs with castor-oil or some other mild purgative is recommended by many, but opinions differ in respect to cardiac stimulants. Cauterizing the pustule, rubbing in gray ointment, compresses with sublimate or carbolic acid over the inflamed glands or buboes, seem rational. Inhalations of a 1 per cent. carbolic spray can be tried in the pulmonary form. The most important protective measure for physicians and attendants is scrupulous cleanliness. The great danger of infection from the sputum and edema fluid must be constantly borne in mind. The best disinfectants are 1 per cent. sublimate: 3 per cent. carbolic acid: kresol soap and 2 per cent. chlorid of lime. Preventive vaccination is recommended. "Serum therapeutics is still on trial."

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 12 to 18, 1900:

Bailey V. Ashford, lieut. and asst.-surgeon, U. S. A., from the Department of Puerto Rico, to report by Feb. 5, 1900, for duty in the Department of California.

William J. Calvert, lieut. and asst.-surgeon, U. S. A., member of a board convened at Manila, P. I., to study tropical diseases.

Joseph J. Curry, acting asst.-surgeon, member of a board at Manila for the study of tropical diseases.

José M. Delgado, acting asst.-surgeon, from Plattsburg Barracks, N. Y., to Washington, D. C., for instructions.

Frank Du Bois, acting asst.-surgeon, from New York City, to the Department of California.

William E. Hamlin, acting asst.-surgeon, from New York City to Waltham, Mass., for annulment of contract.

Ashton B. Heyl, captain and asst.-surgeon, U. S. A., leave of absence granted to Feb. 28, 1900, at which date the acceptance of his resignation will take effect.

James M. Kennedy, captain and asst.-surgeon, U. S. A., member of a board convened at San Francisco, Cal., for the examination of officers for promotion.

Henry S. Kilbourne, major and surgeon, U. S. A., from New York City to the Norfolk navy yard, Va., on temporary duty connected with the army transport service.

William O. Owens, captain and asst.-surgeon, U. S. A., from the department of California to Fort Thomas, Ky.

Benjamin F. Pope, lieut.-col., deputy surgeon-general, U. S. A., from Columbus Barracks, Ohio, to report at San Francisco, Cal., on or before Feb. 5, 1900.

Henry I. Raymond, major and surgeon, Vols., (captain and asst-

pointed by a board of directors, who shall be entitled to a salary of $2500 per annum, and who shall be a well-educated physician having had experience in the treatment of inebriates. He shall give his whole time to the welfare of the institution.

surgeon, U. S. A.), honorably discharged from the volunteer service upon tender of his resignation, to take effect Jan. 18, 1900.

Charles St. John, acting asst.-surgeon, from Buffalo, N. Y., to the Department of California.

John H. Stone, lieut. and asst.-surgeon, U. S. A., now at Matanzas, Cuba, is relieved from further duty at Fort Leavenworth, Kan.

Richard P. Strong, lieut. and asst.-surgeon, U. S. A., member of a board at Manila, P. I., to study tropical diseases.

William J. Wakeman, captain and asst.-surgeon, U. S. A., from Fort Thomas, Ky., to report at San Francisco, Cal., on or before Feb. 5, 1900.

ARMY MEDICAL EXAMINING BOARD IN MANILA, P. I.

A board of medical officers to consist of Lieut.-Col. Benjamin F. Pope, deputy surgeon-general, U. S. A.: Major Guy L. Edie, surgeon U. S. V. (captain and asst.-surgeon, U. S. A); Capt. William J. Wakeman, asst.-surgeon, U. S. A., and Lieut. Bailey K. Ashford, asst.-surgeon, U. S. A., has been constituted to meet in Manila, P. I., as soon as practicable, for the examination of candidates for admission to the medical corps of the army. The board will receive instructions for its guidance from the surgeon-general. It will remain in session until all the candidates who are authorized to present themselves shall have been examined. The president of the board will then report the completion of the examination of the candidates by cable to the adjutant-general of the army. Lieut.-Col. Pope, Capt. Wakeman and Lieut. Ashford will then report in person to the commanding general, Department of the Pacific and 8th Army Corps, for assignment to duty.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Jan. 20, 1900:

(*Changes by Cable from Asiatic Station.*)

Asst.-Surgeon D. L. Wright, detached from the *Monterey* and ordered to the *Isla du Luzon*.

Medical Director D. Dickinson, ordered to duty as a member of the naval examining board, Washington navy yard.

Medical Director G. S. Beardsley, detached from the naval retiring board, Washington navy yard, and ordered home to await orders.

Medical Inspector J. C. Wise, detached from the naval medical examining board, Washington navy yard, and ordered to duty as member of the retiring board.

Surgeon L. G. Heneberger, detached from the naval recruiting rendezvous, Detroit, Mich., and ordered to the training station, Newport, R. I.

Surgeon Oliver Diehl, detached from the *Michigan* and ordered to the naval recruiting rendezvous, Philadelphia, Pa.

P. A. Surgeon A. R. Alfred, detached from the New York navy yard and ordered to the *Texas*.

P. A. Surgeon F. W. Olcott, detached from the *Texas* and ordered to the naval recruiting rendezvous, Detroit, Mich.

P. A. Surgeon H. D. Wilson, ordered to duty on the *Michigan*.

P. A. Surgeon C. E. Riggs, detached from the naval recruiting rendezvous, New York, and ordered to the New York navy yard.

Surgeon H. N. T. Harris, ordered to temporary duty on the *Vermont* in connection with the crew of the *Albany*.

Asst.-Surgeon R. Spear, detached from the naval recruiting rendezvous, Philadelphia, Pa., and ordered to the *Constellation*, temporarily.

Asst.-Surgeon H. A. Dunn, ordered to the Naval Proving Grounds, Indian Head, Md.

Asst.-Surgeon D. H. Morgan, detached from the *Iris* and ordered home.

Medical Director G. S. Beardsley, placed on the list of retired officers of the Navy from Jan. 22, 1900.

Medical Director J. M. Flint, placed on the list of retired officers of the Navy from Feb. 7, 1900.

Pharmacist J. H. McGulgan, detached from the Naval Proving Grounds, Indian Head, Md., and ordered to the New York navy yard.

Pharmacist S. Englander, detached from the Navy Yard, New York, and ordered to the Naval Hospital, New York.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 18, 1900:

P. A. Surgeon C. P. Wertenbaker, to proceed to Greensboro, N. C., and Jessup, Ga., for special temporary duty.

Asst.-Surgeon L. L. Lumsden, relieved from duty at Seattle, Wash., and directed to proceed to the San Francisco quarantine station and report to the medical officer in command for duty and assignment to quarters.

Asst. Surgeon W. W. King, to report to Surgeon L. L. Williams (Immigration Depot), New York City, for temporary duty, pending departure for Ponce, Puerto Rico.

Asst.-Surgeon F. H. Thornbury, relieved from duty at the San Francisco quarantine and directed to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters.

Asst.-Surgeon Carl Ramus, relieved from duty at Havana, Cuba, and directed to proceed to Fort Stanton, N. M., and report to the medical officer in command for duty and assignment to quarters.

Asst.-Surgeon H. A. Stansfield, relieved from duty at San Francisco, Cal., and directed to proceed to Honolulu, H. I., and report to Surgeon D. A. Carmichael for duty.

Asst.-Surgeon Carroll Fox, relieved from duty at the Reedy Island quarantine station and directed to proceed to the Port Townsend quarantine station and report to the medical officer in command for duty.

Asst.-Surgeon F. E. Trotter, relieved from duty at the Tortugas quarantine station and directed to proceed to Havana, Cuba, and report to the quarantine officer for duty.

Asst.-Surgeon E. R. Edson, relieved from duty at St. Louis, Mo., and directed to proceed to the Reedy Island quarantine station and report to the medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon John W. Stevenson granted leave of absence for 30 days from Jan. 22, 1900.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 19, 1900:

SMALLPOX—UNITED STATES.

Delaware: Wilmington, Jan. 6 to 13, 1 death.

Florida: Jacksonville, Jan. 6 to 13, 2 cases.

Georgia: Jessup, Jan. 16, 1 case.

Illinois: Cairo, Jan. 1 to 7, 5 cases, 2 deaths; Chicago, Jan. 6 to 13, 4 cases.

Louisiana: New Orleans, Jan. 6 to 13, 13 cases, 2 deaths.

Nebraska: Omaha, Jan. 6 to 13, 1 case.

New York: New York, Jan. 6 to 13, 1 case.

North Carolina: Greensburg, Jan. 15, numerous.

Ohio: Cincinnati, Jan. 5 to 12, 1 case; Cleveland, Jan. 10, 25 lent.

Oklahoma: Blackwell, Jan. 8, prevalent; Newkirk, Jan. 8, preva- cases.

South Carolina: Greenville, Jan. 6 to 13, 2 cases.

Tennessee: Columbia, Jan. 6, 24 cases.

Tennessee: Columbia, Jan. 6, 24 cases; Mount Pleasant, Jan. 6, 8 cases; Nashville, Jan. 11 to 18, 6 cases.

Texas: Houston, Dec. 31 to Jan. 6, 5 cases.

Virginia: Portsmouth, Jan. 6 to 13, 10 cases, 2 deaths.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Dec. 16 to 30, 14 cases, 4 deaths.

Bohemia: Prague, Dec. 16 to 30, 10 cases, 1 death.

England: London, Dec. 16 to 30, 12 cases.

France: Lyons, Dec. 16 to 23, 2 deaths.

Germany: Königsburg, Dec. 16 to 23, 1 case.

Gibraltar: Gibraltar, Dec. 24 to 31, 1 case.

Greece: Athens, Dec. 16 to 30, 10 cases, 2 deaths.

India: Bombay, Dec. 12 to 19, 40 cases; Calcutta, Nov. 25 to Dec. 9, 9 deaths.

Japan: Yokohama, Nov. 18 to 25, 1 case.

Mexico: Chihuahua, Dec. 31 to Jan. 6, 4 deaths; Vera Cruz, Dec. 31 to Jan. 13, 3 deaths.

Russia: Moscow, Dec. 16 to 23, 7 cases; Odessa, Dec. 24 to 30, 4 cases 3 deaths; St. Petersburg, Dec. 16 to 23, 19 cases, 7 deaths; Warsaw, Dec. 9 to 23, 12 cases.

Spain: Corunna, Dec. 24 to 30, 2 cases; Madrid, Dec. 16 to 23, 14 cases.

Uruguay: Montevideo, Dec. 9, 1 case.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Jan. 8, 1 case.

YELLOW FEVER—FOREIGN.

Cuba: Habana, Dec. 31 to Jan. 6, 5 deaths; Matanzas, Dec. 20, 1 case. Santiago de Cuba, Dec. 31 to Jan. 2, 2 deaths.

Mexico: Vera Cruz, Dec. 29 to Jan. 13, 3 deaths.

CHOLERA.

India: Bombay, Dec. 12 to 19, 1 death; Calcutta, Nov. 25 to Dec. 9, 74 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, Jan. 1 to 16, 5 cases, 4 deaths.

Philippine Islands: Manila, Jan. 16, 5 cases.

PLAGUE—FOREIGN.

Brazil: Santos, Oct. 15. Dec. 23, 38 cases, 13 deaths.

China: Hongkong, Nov. 25 to Dec. 7, 42 cases, 42 deaths.

India: Bombay, Dec. 12 to 17, 248 deaths; Calcutta, Nov. 25 to Dec. 9, 138 deaths.

Japan: Kobe, Dec. 10 to 20, 3 deaths; Nagasaki, Dec. 9, 1 case; Osaka and Hiogo, Dec. 2 to 23, 12 cases, 9 deaths.

New Caledonia: Numea, Jan. 1 to 9, 9 cases, 5 deaths.

Portugal: Lisbon, Jan. 1, 1 case; Morau, Dec. 25, 9 cases, 7 deaths.

CHANGE OF ADDRESS.

Blue, W. R., from 2205, 3d St., to 214 W. Broadway, Louisville, Ky.

Godfrey, B. B., from Box 42, to 65 E. 10th, Holland, Mich.

Smith, J. W., from 2100 Market to Mermod Jaccard Bldg., St. Louis, Mo.

Tiffany, F. B., from 13th and Grand to 805 McGee, Kansas City, Mo.

McConathy, H. M., A. A. Surg., U. S. A., from Albonita to Adjuntas, Porto Rico.

Houston, T. M., from Falls City, Neb., to Stanberry, Mo.

Ward, W. D., from Rochester, N. Y., to Presbyterian Hospt., Philadelphia, Pa.

Long, G. W., from Graham to Statesville, N. C.

Hannah, R. H., from Arlington to Guthrie, O. T.

Krusen, W., from 158 to 127 N. 20th, Philadelphia, Pa.

Grace, R., from Windemere Hotel to 750 Grace St., Chicago, Ill.

Peterson, W. A., from 3129 to 3016 Wentworth Ave., Chicago, Ill.

Van Derslice, J. W., from Venetian Bldg to Medinah Temple, Chicago, Ill.

Wray, J. T., from 226 to 512 Vincennes, New Albany, Ind.

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Original Articles.

STRANGULATED HERNIA: SOME PRACTICAL REMARKS CONCERNING ITS DIAGNOSIS AND ITS PROPER MANAGEMENT*.

BY PARKER SYMS, M.D.
NEW YORK CITY.

Strangulated hernia presents too important a subject to be comprehensively set forth in a brief essay, therefore the scope of this paper has been limited to the entirely practical and clinical features. No attempt has been made to minutely describe the pathic anatomy of the condition, nor to review the theories of the etiology of strangulation of a hernia. Broad rules have been treated as being invariable; the exceptions have not been dwelt on.

An incarcerated hernia is one in which the contents of the bowel involved are so included as to prevent their passage or escape, but in which the blood circulation is not materially impeded.

A strangulated hernia, on the other hand, is one in which the constriction is sufficient to shut off the blood circulation of the part involved. For the practical purposes of this paper it may be stated that strangulation of a hernia depends on the fact that the hernial canal or the neck of the sac has become too small for the mass it contains. This may be due to a narrowing of the canal, or to a swelling of the hernia. Volvulus or constriction of the intestine by bands may occur within the sac exactly as they may take place within the abdomen, but in the majority of cases the strangulation is caused by constriction at the hernial canal or at the neck of the hernial sac.

When the return flow of blood is prevented by constriction, the mass becomes congested and swollen; so strangulated hernia is a condition that augments itself. When the blood circulation has been completely arrested by strangulation, gangrene of the part will soon occur. This is so serious a condition that it may be practically considered fatal, and it should never be allowed to take place. The arrangement of the vascular system of the intestine is such that strangulation of even a small loop of bowel results in a serious derangement of the blood-supply of the entire intestinal tract.

Symptoms and Diagnosis.—The symptoms of strangulated hernia are a logical result of the conditions producing them, and they are absolutely characteristic and distinct, and failure to make a diagnosis is inexcusable. They are those of acute intestinal obstruction with the addition of the local objective and subjective symptoms of the hernia itself. They represent the condition known as abdominal shock followed by intestinal obstruction—later with gangrene of the intestine and general systemic infection. They are in no wise similar to the symptoms of a case of ordinary functional constipation, and it is most important they should be early recognized and properly interpreted, for they indicate a state of affairs which will surely result in death unless spontaneous reduction or surgical interference afford relief.

The prominent symptoms of strangulated hernia are: pain, tenderness, vomiting, obstipation, tympanites, local changes, disturbance of the pulse, disturbance of temperature, facial expression, mental condition, derangement of the capillary circulation.

Pain is usually the first symptom to be noticed. It comes on suddenly, at first radiating from the umbilicus and finally becoming a general abdominal pain. It is colicky in character and severe in degree. There is also local pain about the hernia itself. Tenderness accompanies the pain and is of a corresponding character. Pain and tenderness occur soon after the strangulation, and they continue till reduction is accomplished or until gangrene has taken place.

Sudden cessation of local pain and tenderness without reduction of the hernia indicate the occurrence of gangrene and should be regarded as a grave sign of danger.

Vomiting is usually an early and persistent symptom. At first it is reflex in character, being caused by nerve irritation. Later it becomes projectile in character, and then it is due to obstruction of the intestine and to waves of peristaltic action. At first the vomit consists of the contents of the stomach, later of gastric mucus and bile, and finally of the contents of the small intestine; then it has the characteristic appearance and odor of stercoraceous vomit.

Obstipation will be present from the first to last, though there may be a fecal movement from the lower bowel. Aside from this there will be no passage of feces or gas.

Tympanites will increase till relief is obtained.

The local symptoms, besides those peculiar to hernia, will be those of inflammation, viz.: swelling, heat, redness, pain, and tenderness. To these will be added loss of impulse on coughing, and gradual loss of tympanitic resonance.

The pulse is always disturbed in its action, both as regards its frequency and its volume. Its rate is increased and it becomes irregular, small and thready. As exhaustion takes place the pulse will show evidence of final heart failure.

The temperature is variously disturbed. It is often subnormal from shock. When systemic infection has taken place the temperature will be elevated; and finally it will again become subnormal from exhaustion and collapse.

The facial expression is indicative of severe injury or shock. It has the pinched, drawn, anxious, ashen look known as the Hippocratic face.

The mental condition is that found accompanying any severe abdominal injury. The patient exhibits a queer

* Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

combination of fear, and of braggadocio, both evincing anxiety about himself and boasting that he feels perfectly well. This often seems like an ill-defined form of delirium. The capillary circulation is always disturbed, as is evidenced by pallor and by the slight cyanosis of the extremities.

Shock is always present to a greater or lesser degree, and this alone stamps the case as different from one of functional constipation or intestinal derangement, and should lead to a proper diagnosis. It is evidenced by the characteristic pulse, facial expression, pallor and prostration, with the peculiar mental condition described above.

The clinical history of a typical case will be about as follows: The patient who has a hernia—either recently acquired or of long standing—will be suddenly attacked with severe abdominal pain radiating from the umbilicus. Vomiting from nerve reflex may come on as one of the earliest symptoms. From the onset of the attack the patient will show the symptoms of shock. His pulse will be rapid, small and thready. His surface will be pale and ashen with slight cyanosis of the finger tips. The face will appear pale, drawn, pinched and anxious. There will be pain and tenderness in the region of the hernia. The hernia will become swollen, tense and inelastic. It will not give an impulse on coughing. Constipation will be present from the onset, though there may be a discharge from the lower bowel. No gas will be expelled, and the abdomen will become more and more distended. The patient will be greatly prostrated from the beginning, out of proportion to the other symptoms, and if the strangulation is allowed to continue he will pass from a state of exhaustion to one of final collapse. The temperature will vary according to the conditions described above, and it is not an important element of this disease. The vomiting will sometimes be constant, and sometimes it will cease after the first few hours, but when the obstruction has lasted long the vomiting will recur and it will be projectile and of the stercoraceous variety. The tongue will be dry and coated and the breath will be offensive. Hiccough may come on at any time or it may be absent. Spontaneous reduction, surgical relief or death will terminate the case.

If one will consider the mechanics of the condition he will see that the strangulated intestine is in the same plight as a limb or finger is with a tight elastic band around it. The blood circulation is cut off by compression, the resultant swelling causing increasing compression, and it will be readily understood that if relief by mechanical means is neglected, death of the part will ensue. The rule has so few exceptions that it may be stated that strangulated hernia unrelieved is always a fatal condition. Fortunately, the converse, that strangulated hernia properly relieved at a sufficiently early date should never be fatal, is true. The danger lies in delay, and when we take up the question of treatment this is one thing I want especially to urge on all: strangulated hernia should be early recognized and promptly relieved.

Treatment.—We come now to the question of treatment, the rules for which are very simple. Taxis should never be employed when it is possible to operate. All that should be done in the way of expectant treatment is to place the patient in a position which most favors spontaneous reduction of the hernia, to apply cold by means of an ice-bag or cracked ice wrapped up in clothes, to withhold all food from the patient until his condition is relieved, and if these measures do not succeed in accelerating a spontaneous reduction of the hernia, operation should be resorted to before any of the more severe symptoms have set in. That is to say, one should never wait for fecal vomiting, nor until the patient is in a condition of exhaustion. In fact, one should not expect a spontaneous recovery from this condition, for spontaneous recovery is the rare exception, and an operation done on a patient who might have recovered without it will have done no harm if it is properly performed, but a patient who requires operation for this condition will surely die if the operation is not done. The reason that such a large mortality is recorded against surgery of strangulated hernia is entirely owing to the fact that the cases are not properly treated as far as this very point is concerned. Too often do we find that a patient has been subjected to taxis. The manipulations, no matter how gentle, are dangerous and in many cases have hastened the fatal result. In no case can taxis be regarded as free from danger.

Should operation be found necessary, it should be done in the simplest manner possible. As most of these cases are suffering from vomiting due to nerve reflex or to obstruction of the intestinal canal, there may be risk in administering a general anesthetic. Where vomiting is persistent and frequent, local anesthesia should be depended on, for we all recognize the danger of suffocation from administering ether or chloroform to a patient in this condition. Wherefore, it is my rule to administer a full dose of morphia and an ounce of whisky, if the patient be an adult, and then to use cocain locally, for which purpose I employ a weak solution—from .1 to .25 of 1 per cent. The usual preparation of the operation field, as regards asepsis, must be rigidly carried out. After making the incision through the tissues down to the sac, it will become necessary to proceed slowly and cautiously so as to avoid wounding the intestine, which may be adherent to the hernial sac. The incision in these cases should be a free one, permitting thorough exposure of the hernial mass for its inspection and treatment. After opening the hernial sac the band of constriction should be sought with the finger and, either by dissection or by simple incision guarded by special director, the constricting portion of the canal or sac should be divided so as to be fully relieved. As strangulation of the intestine interferes so radically with its circulation, it will be found, a very few hours after the onset in some cases, that the intestine may have become gangrenous. In all cases it will be darkly congested with ecchymotic spots, and in every case judgment will be required to determine whether the intestine is in a condition which will render it safe to return it to the abdomen. If it is gangrenous, then it must not be returned, but must be properly dealt with, while if there is doubt as to whether it is gangrenous or viable after relieving the constriction so that the blood circulation may be restored, one should often wait a long time to determine the question, for it is a fact that an intestine which will be apparently dead will after a time show that its life is intact. This will be evidenced by the appearance of fresh blood in the vessels, and finally the restoration to its natural color.

When the intestine is not gangrenous, after being thoroughly cleansed and inspected to see that there is no spot of perforation and after the operator has assured himself that there is no cause for strangulation remaining, the loop of it should be returned to the abdomen, and if the patient's condition warrants the slight expenditure of time, one of the standard methods for radical cure of hernia should be employed in closing the wound; but if the patient is in a weakened state, so that haste is of all importance, this may be omitted and

the wound closed by ordinary suture; or the canal may be packed with gauze and the patient put to bed.

If the intestine be gangrenous, there is nothing to do but a resection, either repairing the intestine at once or at a later period. To determine whether or not this should be done at once requires the exercise of much judgment, and there is no doubt that one must be largely influenced by the patient's general condition. Should it be decided that the patient is too weak to stand an immediate repair of the resected bowel, an artificial anus should be established by suturing both ends of the intestine to the wound, and the repair can be completed later. But if the patient's strength will warrant it the bowel should be closed at once, by an end-to-end suture either by means of the Murphy button or by the modified Maunsell method.

The subject of technique for these operations and for that for radical cure of hernia can not be dwelt on in this paper.

In closing, the author would like to emphasize certain points:

1. The symptoms of strangulated hernia are distinct, and diagnosis can always be made.
2. Strangulated hernia is a purely mechanical condition and can only be relieved by mechanical means.
3. Taxis is dangerous and should never be employed.
4. Strangulated hernia is a fatal disease if not promptly relieved.
5. Strangulated hernia should never prove fatal if properly treated at a sufficiently early time.

50 West Forty-seventh Street.

TREATMENT OF STRANGULATED HERNIA.*

BY JOHN F. ERDMANN, M.D.
NEW YORK CITY.

With the status of aseptic surgery at the present date, the treatment of strangulated hernia has become a matter of great simplicity, and although we still try and always will try reduction by means of taxis in the early period of the strangulation, operation will be more strongly advocated, because of the low rate of mortality in early operation and also because we can and should do a radical cure when conditions allow; thereby guaranteeing the patient not only a recovery from his strangulation, but also a cure of his hernia. Taxis is never practiced by myself for more than a few moments, if no evidence of diminution in size of the hernia be manifest, and never if previously treated by physicians or if upon examination a hard small constriction can be felt at the proximal end of the protrusion, i. e., the site of strangulation. The patient is always given a full dose of morphin hypodermically, to relax the constriction, a full half hour before any taxis is practiced; in addition heat to the full point of toleration is applied over the hernia.

We make it a rule to obtain permission to operate in all cases where an anesthetic is required to relax the strangulation.

Operative Proceedings.—Our incision is always made with a view of performing a radical cure. We have seen several sad results in cases accompanied by vomiting where ether was used and we make it a rule never more to use general anesthesia in this class of cases. These are always operated on with local anesthesia, our preference being a 1 to 2 per cent. solution of eucain B. in normal salt solution. Out of a great number of operations for hernia, both strangulated and radical cases, in which we have used local anesthesia, pain was a prominent feature in one case only, and that was observed while handling the cord, where but sixty minims of a 1 per cent. solution of eucain were used.

Should omentum be the presenting tissue, it is cut off, if matted together, inflamed, or gangrenous, and frequently returned if these conditions do not exist. When the gut is in condition to return, the radical cure of Bassini is practiced. Should the condition of the gut be questionable and the patient's condition allow, hot towels or gauze are applied for a time, even for a full half hour, with a view of proving the propriety or not of returning the gut.

In case of death in part, i. e., a small area, or in the entire lumen of the gut for some length, and the patient's condition not admitting of extended procedure, an artificial anus is established, while the gangrenous gut is left on the abdominal wall after a packing is placed in the abdominal incision. The artificial anus is readily attended to at a later date.

Should the patient's condition warrant, resection is immediately done, anastomosis accomplished by one of the many means at hand and the operation completed so as to make a radical cure. Repair of an artificial anus should not be delayed beyond the time when the patient's general condition will admit of a second operation, especially so when the opening is in the ileum or jejenum, as in these cases exhaustion due to starvation follows rapidly, and the patient is prone to die from the added shock.

* Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

DIAGNOSIS OF STRANGULATED HERNIA.*

BY HENRY ROTH, M.D.
ASSISTANT ATTENDING SURGEON, LEBANON HOSPITAL.
NEW YORK CITY.

A strangulated hernia is an acute form of intestinal obstruction which exhibits, in addition to the usual symptoms, certain local signs. The results of the strangulation are a sudden and severe irritation of the abdominal plexus of sympathetic nerves, an interference with the return flow of blood, an obstruction to the fecal current and local injury.

The irritation of the peritoneal and intestinal nerves causes reflex vasomotor changes which account for the extreme prostration, the rapid, feeble, low-tension pulse, the shallow respiration, the subnormal temperature, the cold and livid extremities, the cold sweats, the diminished amount of urine, and partly for the vomiting, constipation and pain.

Interference with the venous current accounts for the local signs, which are tension, irreducibility, pain, tenderness, dulness on percussion and absence of impulse.

Obstruction to the fecal current accounts for the constipation, vomiting, tympanites and the presence of indican in the urine.

The severity of these symptoms will vary in different cases, at different stages of the disease, and will be modified by the age and previous condition of the patient's health. Should a recent hernia be strangulated, all the symptoms will be very marked, and particularly so in a previously robust young individual. In inguinal hernias they are more acute than in femoral, and in enteroceles more than in epiploceles. If the strangulation is not relieved, most of the symptoms become aggravated or modified. The strangulated loop of intestines will become gangrenous, perforated, and a diffuse inflammation of the hernial mass with general septic peritonitis will set in. After perforation is present the hernial mass becomes

*Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

swollen, more painful and tender, and if the patient survives long enough, the skin over the hernia will be red and finally break down. Of the symptoms of general septic peritonitis, suffice it to say that frequently the patient will cease to complain of pain, the vomiting will be replaced by distressing singultus and the patient will present the picture of one dying from ptomain poisoning.

The cardinal symptoms of a strangulated hernia are those of shock or collapse, pain, vomiting and constipation. Pain is one of the first to appear and is referred to the hernia itself or the umbilical region. It is colicky in nature and is due to injury of the peritoneum, distention of the intestines and very active peristalsis.

Vomiting is at first a reflex, but if the case goes on without relief it is caused by the obstruction to the natural current of intestinal contents. It is frequently repeated, but affords no relief and gives rise to great thirst. At first only the contents of the stomach are ejected, then some bile-stained fluid, and finally a very offensive, dirty liquid with a fecal odor. This stercoraceous fluid is from the distended intestines in which it has undergone decomposition. From the very outset there is constipation, which comes on suddenly and is complete. There is no escape of flatus, though an enema may bring down some fecal matter from below the seat of obstruction. This absolute constipation is due to reflex paralysis of the intestines and not to the obstruction alone.

Intestinal paralysis promotes stagnation of fluid, which, being rich in bacteria, now undergoes decomposition and gives rise to tympanitic distention.

Indol, not being discharged from the intestinal canal, is changed into indican and is found in the urine. The amount of urine is diminished. This is due to the low arterial pressure brought on by irritation of the abdominal plexus of nerves.

The local signs of a strangulated hernia have been given above, and it only remains to give the rationale of some of them.

The hernia is not reducible, on account of the increase in volume caused by venous stasis. This is also responsible for the exudation of serum into the sac, which gives rise to increased tension and a dull percussion note. The amount of exudate will increase as the case goes on, and in time the tension and dulness will be more pronounced. The presence of tension and the absence of an impulse are characteristic signs of a strangulated hernia; they are not found in obstructed, simple, irreducible or inflamed hernia. While vomiting and constipation are symptoms of an obstructed or an incarcerated hernia as well, they are not so severe nor persistent, and yield to appropriate treatment; furthermore, constitutional symptoms are not pronounced, and tenderness of the hernia is absent. An inflamed hernia, on the other hand, is tender and presents the symptoms and signs of a local inflammation. There will usually be a rise in the temperature, but rarely shock or collapse; vomiting is frequently absent, and constipation, if present, yields to simple treatment.

If we bear in mind that in strangulated hernia marked irritation of the abdominal sympathetics is present, and that this gives rise to pronounced constitutional symptoms, the diagnosis will readily be made. Difficulty will arise if the strangulation occurs in one of the rare and obscure varieties, such as obturator, sciatic or lumbar hernia.

If symptoms of acute intestinal obstruction arise in the presence of a tumor of doubtful nature, in one of the hernial regions, the benefit of the doubt should be given to the patient and the case treated as one of strangulated hernia.

667 East 135th Street.

RADICAL CURE OF STRANGULATED INGUINAL AND FEMORAL HERNIAE.*

BY IRVING S. HAYNES, PH.B., M.D.

Professor of Practical Anatomy, Cornell University Medical College; Visiting Surgeon to the Harlem Hospital; Fellow of the New York Academy of Medicine, etc.

NEW YORK CITY.

To all intents and purposes this means attempting the radical cure of any inguinal or femoral hernia operated on primarily for the relief of strangulation. I take it for granted that the hernia in either locality has been cut down upon, the sac has been opened, the constriction found and divided, complications dealt with successfully and the gut found in a condition to be returned to the abdominal cavity, either with or without an anastomosis having been performed, and that the condition of the patient and parts is such as to warrant an attempt at permanent closure of the wound with primary union very probable.

INGUINAL HERNIA.

Our first concern is with the sac itself. This should be carefully isolated from the spermatic cord. If the sac is an acquired one, this will be an easy matter, if congenital, more difficult. In separating it from the vas deferens, the former may be torn through. Tearing a slit in the sac, even though it extends into the abdomen, need cause no apprehension. If it is not obliterated by the ligature it can be closed by a running suture of catgut.

Free the neck of the sac, as well as the parietal peritoneum, about the internal ring. This will be facilitated by dividing the internal oblique and transversalis muscles and the transversalis fascia outward, just above and parallel with Poupart's ligament, to its outer and middle thirds. Then, while making strong traction on the sac, ligate its neck as high up as possible, with chromic gut, or if the pedicle is very thick, with silk. The object of lossening the peritoneum around the internal ring, and of ligating the hernial sac under considerable tension as far up as possible, is to obliterate the funnel which leads into the neck of the sac.

Cut the sac away. Some advise its retention, and by rolling or plaiting form a pad which is placed over the internal ring. This is supposed to serve two purposes: to form a barricade strengthening the ring, and to produce an elevation in the peritoneum at the place where a depression had formerly existed, and thus prevent a return of the hernia.

I am opposed to this plan of treatment because such a pad of tissue over the ring will act as a wedge to reopen that orifice, and any bulging which at first was formed toward the abdomen will become converted into a depression into which the intestine can easily enter. It is better to cut the pedicle short and guard against a return of the hernia by a proper repair of the abdominal walls, for in them lies our only permanent source of strength. In other words, the more closely we can imitate the construction in the normal body, the more lasting will be our results.

The disposition of the cord is next in order. Numerous large veins, much loose areolar tissue, thickened cremaster muscle and fascia need to be removed, and a

*Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

thick, loose, vascular cord converted into a thin, firm one. Following the suggestion of Halsted, all the veins but one or two should be removed, with the excess of loose tissue.

The closure of the abdominal wall and formation of the inguinal canal come next. In children the internal is nearly behind the external ring. The inguinal canal is very short or does not exist. By the growth of the pelvis the rings are separated and the inguinal canal is formed by the internal ring being carried outward until it assumes its adult position, above the middle of Poupart's ligament. If a hernia exists, the infantile condition is reproduced—either as a result of arrested development or from the traction of the neck of the sac—and the internal ring is found partially or wholly behind the external, the inguinal canal is obliterated and the examining finger passes through what appears a single opening into the abdominal cavity. This abnormal condition must be changed, by making a new internal ring beyond the middle of Poupart's ligament and reconstructing an inguinal canal.

With this end in view, and to afford room for the isolation of the hernial sac the first step has already been taken by dividing the internal oblique and transversalis muscles with the transversalis fascia outward, as already given. Arrest all bleeding. Draw the cord to the outer angle of this incision and hold it there by a blunt hook or a loop of silk. Suture, from without inward, behind the cord, the internal oblique and transversalis muscles and the transversalis fascia, the conjoined tendon and the outer edge of the rectus muscle when this is lax, to Poupart' ligament.

These sutures should be of chromic gut, No. 1 or 2, placed about half an inch apart and inserted according to the method employed by Bassini, as described by Dr. E. W. Andrews.[1] He says: "Each stitch enters the transversalis and internal oblique 1.5 cm. from their lower margin and makes exit at that margin. The needle then penetrates the shelving edge of Poupart's ligament from within outward."

The first suture is the most important, as on its placement the size of the new internal ring will depend. It should be placed close enough to the cord that when tied the fibers of the muscles, and fascia, will hug the cord tightly but there will be no obstruction to the circulation in it.

We have now reformed the internal ring and the posterior wall of the inguinal canal. Place the cord along the line of the normal inguinal canal and unite the aponeurosis of the external oblique over it by sutures of chromic catgut, No. 1 or 2, inserted interruptedly or continuously. The external oblique is closed as far as the spine of the pubes, where an opening is left just large enough for the cord to pass through without constriction. Finally, the skin is brought together by a subcutaneous suture of chromic gut No. 0.

The plan suggested above combines the favorable features of the operations suggested by two well-known surgeons, without the disadvantage of either. For instance, Halsted's plan of forming a new internal ring and of lessening the size of a large varicose cord is based on correct principles, viz., conforming to the natural construction, but he deviates from this and introduces a structural weakness when he brings the cord out through the external oblique and forms the external ring directly in front of the internal, with obliteration of the normal inguinal canal. This establishes a condition most favorable for the return of a hernia. Bassini's operation is improved by adding to it the reconstruction of a new internal ring over the outer and middle thirds of Poupart's ligament, by diminishing the size of the spermatic cord and substituting an absorbable for a non-absorbable ligature and suture material.

I would like to protest against the use of any non absorbable material for ligatures or sutures in this work. Silk is the least, but silkworm gut and silver wire are the most, objectionable. They add a fictitious strength, but really become a source of weakness because of the probability that, even though buried at the time, they will act like other foreign bodies—be pushed toward the surface, and will finally require removal.

Primary union is most essential to the success of any operation for radical cure of a hernia. Hence, everything which can prevent or retard it must be eliminated.

We take it for granted that the operation is performed with the utmost regard for aseptic details. Aside from this there are certain defects of technique that tend to interfere with the desired result. One of these is too much and rough handling of the tissues. Another is a failure to remove masses of fatty tissue which may either undergo necrosis or mechanically prevent union by remaining between the sutured tissues. Another very important oversight is a failure to completely arrest all oozing before starting to suture the parts. Close apposition of the divided muscles is necessary, but, at the same time, this must be secured by using not too many sutures, for if they are tied thick and close together necrosis of the sutured line may result.

In the female the operation for indirect inguinal hernia is carried out along the same lines as just given, and no special mention is needed for any one part. The operation can be done with greater ease and the result will more often be permanent. That is, it will be if Nature's plan is copied in repairing the parts.

Directly bearing on this point is the frequency of hernia following Alexander's operation for shortening the round ligaments. Such an undesirable occurrence is due to a failure to properly reproduce the normal construction.

FEMORAL HERNIA.

While herniæ do not take place at the femoral opening, with the same degree of frequency that they do at the inguinal, the attempt at radical cure is attended with greater natural difficulties and more frequent relapses. The explanation of both facts is based on the anatomic construction of the parts.

To cure a femoral hernia theoretically, we have only to bring the inner end of Poupart's ligament down to the horizontal ramus of the pubic bone, and fasten it there so as to closely embrace the femoral vein and obliterate the femoral opening and canal by deeply placed sutures. No matter how skilfully this is done, there remains alongside the obliterated ring and canal, the large femoral vein which can not be moved, and which will yield to intra-abdominal pressure. Such yielding to pressure stretches the union between its sheath and the ligament, and thus a thin, weak spot is developed which predisposes to the return of the rupture. Many operations have been practiced for overcoming this inherent structural difficulty. I will not enumerate them here, but only mention the best plan.

The sac should be separated from the surrounding parts, the neck freed well into the abdomen, a ligature applied as high as possible and the sac removed. Suture the crural arch and Poupart's ligament firmly to the pectineal fascia, close to the iliopectineal line. These sutures are interrupted ones, of chromic gut No. 2, a

[1] Medical Record, Oct. 28, 1899.

are applied from the vein inward. The one next to the vein needs the most care for its insertion, so that when tied the overlying ligament will not compress it. In the same manner close the hernial tract and reunite the deep fascia; finish the operation by suturing the skin with a single strand of No. 0 chromic gut applied subcutaneously.

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STRANGULATED HERNIA IN CHILDREN.*

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Strangulated hernia in infants and children is by no means so rare as one might be led to suppose from various text-books and monographs on hernia. I have operated on eight patients under the age of 2 years, with one death. The one fatal case was an infant of 8 weeks, and almost moribund at the time of operation. Strangulation had existed for two days. The patient was operated on after midnight, in a poorly-lighted room and under most unfavorable circumstances. The cecum and appendix were present in the sac. The patient rallied after operation, but died two days later. This is the only case in which no attempt at radical cure was made. It was very interesting to note that a considerable portion of my cases were of the cecal variety. In four, or 50 per cent., the sac contained cecum, and in three of these four the appendix also was found. In one case the appendix was gangrenous and it was thought best to remove it. In the others the appendix seemed viable and was returned to the abdominal cavity. Five of my patients were under 1 year of age.

Tariel, of Paris, has made the most complete collection of cases of strangulated hernia in infants. He states that in 128 cases the cecum and appendix were found in only eight.

I believe that the duration of the strangulation is of special importance in hernia in infants. In my series the longest duration was forty-eight hours, and the shortest twelve. There was only one case in which a bacteriologic examination was made of the fluid contained in the hernial sac, and this was negative.

Most writers on strangulated hernia have stated that in the greater proportion of cases the constriction was due to the neck of the sac. Marsh, in 1874,[1] stated that of 32 cases of strangulated hernia in infants, strangulation was due to the neck of the sac. And Tariel states that in 128 he found the neck of the sac to be the cause of strangulation in 58. Personally, I believe this view to be incorrect; in the great majority of instances Tariel and Marsh based their calculations on cases operated on prior to the introduction of modern methods. By these older methods it was impossible, in the small incisions employed, to accurately determine the location of the cause of the constriction. By the modern methods, Bassini's and Halsted's, the aponeurosis of the external oblique is freely opened, and only when this is done is it possible to state definitely whether the strangulation is due to the neck of the sac or the external ring. In every one of my own cases the aponeurosis was freely opened, and this alone was sufficient to render reduction easy, showing that in not a single case was the neck of the sac the cause of constriction. I believe that with scarcely an exception herniotomy in all cases of strangulated hernia in infants and children may be supplemented by an attempt at radical cure. I have employed this procedure in all my cases, with the exception of the one nearly moribund at the time of operation, and in no case up to the present time has there been a recurrence.

I should like to add a word in regard to the diagnosis of strangulated hernia in infants and children. This is not unusually difficult. There is, however, one condition, viz., hydrocele of the cord, which very frequently gives rise to confusion. The history of the case and general condition of the patient will, as a rule, make the diagnosis clear, although I have seen a number of cases in which prolonged taxis, under anesthesia, has been resorted to for simple hydrocele of the cord.

A diagnosis of strangulated hernia having been made, I believe that gentle taxis, not longer than two or three minutes, should be tried. If this fails, application of hot cloths for from ten to twenty minutes should be resorted to, and if a second attempt to reduce it under gentle taxis fails, chloroform or ether should be administered and preparations made for immediate operation. The relaxation following anesthesia will occasionally render reduction possible without operation, but if this fails, operation should be performed.

I have personally known of three deaths from strangulated hernia in infants as the result of temporizing. One of these was an infant aged 8 months, who was brought to the Hospital for Ruptured and Crippled *in extremis*. Operation was refused. The after-history I am unable to state, but death undoubtedly occurred within a short time.

In another case, a patient aged 1 year was brought to the hospital. Prolonged taxis had been tried prior to admission. Very moderate taxis was again made by the house surgeon, with the result that the hernia was easily reduced. The infant, whose condition on admission was by no means good, rapidly grew worse and died within twenty-four hours. No autopsy was permitted.

These personal cases are cited to furnish abundant evidence that the chief danger lies in deferring operation.

*Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

[1] St. Bartholomew Hospital Reports.

CENTRIFUGAL ANALYSIS OF URINE.

BY CHARLES W. PURDY, LL.D., M.D.
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The immense value of urinary analysis in its interpretations of physiologic and pathologic processes may now be said to be fully appreciated by the practical clinician. The disturbance of metabolism, the derangement of the physiologic balance, the disorder of secretion and excretion, indeed the tendency toward death or recovery are often more accurately indicated by careful scrutiny of the urine than by any other available means. The many and important improvements in our methods of analysis have done much to place this subject within the ready reach of the advanced physician. It must, however, be admitted that, notwithstanding the degree of advancement attained in expert laboratory work, there remains much to be accomplished in the way of rendering many of the processes more expeditious and ready, so that they may be made more generally available by the busy physician in practical work. Up to the present time the more rapid and ready processes in uranalysis are only available for a few of the leading constituents of the urine—and these mostly regarding qualitative rather than quantitative data. It therefore happens that the practical clinician for the most part is only able to make a partial and therefore incomplete analysis of the urine in a few of his more important cases, whereas uranalysis should properly constitute a routine of complete investigation in all details of the urine in all

cases, at least occasionally. It is indeed only when this practice is fully established that we can expect to thoroughly grasp the many lessons yet to be learned of physiologic disturbances, and pathologic processes, which are reflected in the various and varied urinary changes. Fully realizing the important bearing of these facts on clinical medicine, the writer has devoted much time and experimentation along these lines during the last decade. Unfortunately the amount of time, thought and practical experiment necessary to reach practical results of value relative to many of these problems is so great that few unacquainted from practical experience in the matter would be prepared to believe the extent of the details of work or the sacrifice of time that is required. It may be stated then that for the most part practical results of value in this direction are only possible after years of investigation, for indeed it is after all only methods that withstand the test of years of practical application that finally become entitled to rank as standard.

The writer's rapid quantitative method for sugar in the urine was introduced to the profession over eleven years ago, and although it can only be said to be an improvement or modification of one or two well-known methods previously in use, yet it was only perfected after eight years of study and experiment. The writer's rapid quantitative method for albumin in the urine was only perfected after four years of labor and experiment, notwithstanding no inconsiderable amount of laboratory facilities and clinical material were at hand for practical observation.

It is now over five years since the writer first proposed the quantitative determination of chlorids, phosphates and sulphates in the urine by the centrifugal method[1]. Nothing further was claimed for this method at the time of its introduction, further than a rapid approximate bulk measurement of the precipitates, because the method was then new and untried save in the writer's laboratory, and it seemed a radical departure from methods better known and considered more exact, such as titration, weighing, etc. Moreover, only bulk percentages had then been worked out in the cases of chlorids, phosphates, sulphates, and albumin, without any attempt having been made to give corresponding gravimetric values, much less the actual corresponding values in Cl, P_2O_5 or SO_3 from the bulk percentages of these combined as salts in the sediment. Since the introduction of the centrifugal method, however, it has been demonstrated, in the writer's laboratory, that centrifugal analysis of the urine, if carried out by refined methods and improved apparatus, may readily reach results that are entitled to rank with older standard methods, the gravimetric and volumetric included, and that bulk percentages of sediments may be worked out in their equivalent values of their elements, not only with precision, but also with a rapidity and facility that at once renders this method of the greatest practical value in clinical work. Indeed, the amount of practical information that this method is capable of laying before the clinician without loss of time can not but prove of inestimable value in his practical work.

The essentials for reaching these results are in no way complex or difficult to comprehend, much less to put into actual practice in the most ordinary laboratory. The equipment should consist of an efficient motor capable of the uniform standard speed, possessing a standard radius of arm and tube (6¾ inches); accurately graduated percentage tubes, and a gauge for regulating the speed. The writer's improved electric centrifuge fulfils all the requirements for accurate work, and is now so well known that its description here seems unnecessary. It may be mentioned here, however, that very recently a further improvement in the writer's percentage tubes has been adopted as follows: The points have been drawn out finer, and the first 5 c.c. have been more minutely graduated in order to indicate measurements in 0.25 percentages instead of 1 per cent., as before[2]. This modification was found necessary in order more accurately to determine quantities less than 1 per cent. of certain urinary constituents when measured in bulk percentage—such, for instance, as the sulphates of the urine, which normally fall somewhat below 1 per cent.

TABLE SHOWING THE BULK PERCENTAGE OF SILVER CHLORID (AgCl) AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF NaCl AND Cl.

Bulk per cent. of AgCl.	Per cent. of NaCl.	Gr. per oz. of NaCl.	Per cent of Cl.	Gr. per oz. of Cl.	Bulk per cent. of AgCl.	Per cent. of NaCl.	G. per oz. of NaCl.	Per cent. of Cl.	Gr per oz. of Cl.
.25	0.03	0.15	0 02	0.1	8.	1.04	4 98	0.63	3.02
.5	0.07	0.31	0.04	0.19	8.5	1.1	5.29	0.67	3.22
.75	0.1	0.47	0.06	0.28	9	1.17	5 6	0.71	3.40
1.	0.13	0.62	0 08	0.38	9.5	1.23	5.91	0.75	3.6
1.25	0.16	0.78	0.1	0.48	10.	1.3	6.22	0.79	3.79
1.5	0.19	0.93	0.12	0.57	10.5	1.36	6.53	0.83	3.97
1.75	0.23	1.09	0.14	0.66	11.	1.43	6.84	0.87	4.16
2.	0 26	1.24	0.16	0.76	11.5	1.49	7.2	0.91	4.35
2.25	0.29	1.41	0.18	0.85	12.	1.56	7.46	0.95	4.54
2.5	0.32	1.56	0.2	0.96	12.5	1.62	7.78	0.99	4.73
2.75	0.36	1.71	0.22	1.04	13.	1.69	8.09	1.02	4.92
3	0.39	1.87	0.24	1.13	13.5	1.75	8.4	1.06	5.11
3.25	0.42	2 02	0.26	1.23	14.	1.82	8.71	1.1	5 29
3.5	0.45	2.18	0.28	1.32	14.5	1.88	9.02	1.14	5.49
3.75	0.49	2.35	0 3	1.42	15.	1.94	9.33	1.18	5.67
4	0.52	2.49	0.32	1.51	15.5	2.01	9.65	1.22	5 86
4.25	0.55	2.64	0.34	1.61	16.	2.07	9.94	1.26	6.06
4.5	0 58	2.8	0.35	1.7	16.5	2.14	10 27	1.3	6 24
4.75	0 62	2.96	0.37	1.8	17.	2.20	10.51	1.34	6.43
5.	0.65	3.11	0.39	1.89	17.5	2.27	10.87	1.38	6 62
5 5	0.71	3.42	0.43	2.09	18.	2.33	11.2	1.42	6.81
6.	0·78	3.73	0.47	2.26	18.5	2.4	11.51	1.46	7.
6.5	0.84	4.05	0.51	2.46	19.	2.46	11.82	1 5	7 19
7.	0.91	4.35	0.55	2.62	19.5	2.53	12.13	1.54	7.38
7.5	0.97	4.67	0.59	2.84	20.	2.59	12.44	1.58	7.56

TABLE SHOWING THE BULK PERCENTAGES OF URANYL PHOSPHATE $H(UO_2)PO_2$, AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF P_2O_5.

Bulk per cent. of $(UO_2)_2P_2O_7$	Per cent. P_2O_5.	Gr. per oz. P_2O_5.	Bulk per cent. of $(UO_2)_2P_2O_7$.	Per cent. P_2O_5.	Gr. per oz. P_2O_5.
.5	0 02	0.1	11	0.14	0 67
1.	0.04	0.19	12	0.15	0.72
1 5	0.045	0.22	13	0.16	0.77
2.	0.05	0 24	14	0.17	0.82
2.5	0 055	0.26	15	0.18	0.86
3.	0.06	0 29	16	0.19	0.91
3.5	0.065	0.31	17	0.2	0.96
4.	0 07	0 34	18	0.21	1.
4.5	0.075	0.38	19	0.22	1.06
5.	0.08	0.38	20	0.23	1.1
6.	0 09	0 43	21	0 24	1.15
7.	0.1	0.48	22	0.25	1 2
8.	0.11	0.53	23	0 26	1.25
9.	0 12	0.58	24	0.27	1.3
10.	0.13	0 62	25	0.28	1.3

TABLE SHOWING THE BULK PERCENTAGES OF BARIUM SULPHATE ($BaSO_4$) AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF SO_3.

Bulk per cent of $BaSO_4$.	Per cent. SO_3.	Gr. per oz. SO_3.	Bulk per cent. of $BaSO_4$.	Per cent. SO_3.	Gr. per oz. SO_3.
.125	0.04	0.19	2.25	0.55	2.64
.25	0.07	0.34	2.5	0.61	2.93
.375	0.1	0.48	2.75	0 67	3.22
.5	0.13	0.62	3.	0.73	3.5
.625	0.16	0.77	3.25	0.79	3.79
.75	0.19	0.91	3.5	0.85	4.08
.875	0.22	1.06	3.75	0.91	4.37
1.	0.25	1.1	4.	0.97	4.66
1.25	0.31	1.49	4.25	1·03	4.94
1.5	0.37	1.78	4.5	1.09	5.23
1.75	0.43	2.06	4.75	1.15	5.52
2·	0.49	2.35	5.	1.21	5.81

For the determination of chlorids, phosphates and sulphates of the urine by the centrifugal method, the foregoing standard and tables are now adopted in the writer's laboratory, after an extended series of practical observations sufficient to establish their accuracy.

Process.—The double arm of the motor is employed, carrying four tubes. Three of the percentage tubes are filled to the 10 c.c. mark with the urine—this having been previously filtered if not perfectly clear. To the first tube is added 1 c.c. of strong nitric acid, and 4 c.c. of standard solution of silver nitrate[3]. To the second tube is added 2 c.c. of 50 per cent. acetic acid and 3 c.c. of uranium nitrate solution[4]. To the third tube is added 5 c.c. of the standard barium chlorid solution[5]. The tubes are next inverted three or four times to insure mingling of the urine and the reagents, and then *allowed to stand aside for three minutes,* to secure complete precipitation. In order to balance the arm of the centrifuge, the fourth tube is filled to the 15 c.c. mark with water. The centrifuge is next operated at a speed of 1200 revolutions a minute for exactly three minutes. The tubes are then removed and the percentage of precipitates is read off on the scale. No. 1 gives the bulk percentage of chlorid of silver ($AgCl$); No. 2 the bulk percentage of uranium phosphate $H(UO_2)PO_4$, and No. 3 the percentage of barium sulphate ($BaSO_4$). The bulk percentages are converted into their equivalent values of percentages by weight and grains per ounce by means of the following tables; and from these the grains or grams of total chlorin (Cl), phosphoric acid (P_2O_5) and sulphuric acid (SO_3) are readily calculated by a glance at the tables. The results are more accurate if the urine be diluted in the cases of chlorids and phosphates if the bulk percentage of these exceed 15 per cent.

The time required to carry out these three quantitative determinations should not exceed ten minutes, even when the total Cl, P_2O_5, and SO_3 for twenty-four hours is calculated from the accompanying tables.

The writer is greatly indebted to his laboratory assistant, Mr. Carl Irenaeus, for his valuable assistance in carrying out the details of the many experimental observations necessary to establish the accuracy of the method herewith brought forward.

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1. Practical Uranalysis and Urinary Diagnosis, 1st ed., 1896.
2. Eimer & Amend, 205-211 Third Ave., New York City, manufacture and supply the writer's improved standard percentage tubes.
3. Standard nitrate of silver solution consists of nitrate of silver, ʒi; distilled water, ℥i.
4. Standard nitrate of uranium solution consists of nitrate of uranium, 100 gr.; distilled water, ℥iv.
5. Standard barium chlorid solution consists of barium chlorid, 4 parts, strong HCl, 1 part; distilled water, 16 parts.

CONTRIBUTION TO TREATMENT OF SPINAL CARIES, WITH SPECIAL REFERENCE TO THE WOVEN WIRE CORSET.

BY GEORGE R. ELLIOTT, MD.
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For many years the profession has been traveling along two well-defined roads in the mechanical treatment of spinal caries or Pott's disease of the spine—one, that of anterio-posterior support or leverage fixation, so clearly described and skillfully employed by Dr. C. Fayette Taylor nearly half a century ago. The force and weight given to it by Dr. Taylor is felt to-day in the number of modifications of his brace employed by expert orthopedic surgeons the world over. His name will live as long as surgery itself. The second road has a much larger body of travelers. I refer to the partial suspension and fixation treatment which, through indefatigable work and energy, was brought to the foreground by another veteran surgeon whose name can never be forgotten. The exponent of partial suspension and fixation, Dr. Lewis A. Sayre gave us in the form of the plaster-of-Paris jacket.

We constantly find allusion made to these ideas having been known many, many years ago and put into practice. Many of us doubtless have in our own libraries books that even give us actual illustrations of these two methods of treatment. We know that Ambrose Paré in 1579 used the corset idea in steel form; that in the seventeenth century Von Nuck employed suspension apparatus for the relief of the disease in question, and that in 1700 Heister devised an anteroposterior support; while in 1764 Levacher originated the jury mast, and we have seen the cuts in fine wood and copper engravings of the old school. The profession knows all of this, but it remained for Drs. Taylor and Sayre to rediscover and add some things. I believe I come very near Dr. Sayre's own remark when I use the word "rediscover."

If we think for a moment, we will readily come to the conclusion that in the *mechanical line especially,* we are not surprised in finding ideas met from a mechanical standpoint in bygone ages, much as the surgeon of common sense meets indications to-day.

While, for example, it is generally conceded that our common table-fork was unknown prior to the time of Queen Elizabeth, if we wander through the collection of articles recovered from the ruins of Pompeii we find the same idea expressed in an instrument having a knife at one end and a prong at the other. In the Halstadt period, 1500 years prior to this, we meet with the same idea. It remained for Elizabeth to add the other prong, but that other prong revolutionized the table etiquette of the world. So in mechanical surgery, if we wish to travel back in search of mechanical exponents of ideas we will find ourselves frequently, at least, in the company of Hippocrates. In certain of the mechanical appliances of orthopedic surgery it remained for Drs. C. Fayette Taylor and Lewis A. Sayre to add the "other prong." This took the form, from the hands of one, of a modernized brace, and from the hands of the other of a plaster-of-Paris corset and perfected jury mast, and these revolutionized the mechanical therapeutics of the world.

Let us leave the brace for the moment and confine ourselves to the corset idea or moderate suspension with partial fixation. I say "partial" for it is impossible to lock up the spine as we lock up the leg or arm, for example. We have seen corsets made of almost every conceivable substance known to man, come into the field. Among these are wood, paper, steel, leather, celluloid, aluminum—all founded on the same mechanical principle—all firm, unyielding, hard. The originators of these various supports, while admitting the unquestionable value of the plaster-of-Paris jacket, which is now in use from one end of the world to the other, sought to get something cleaner, more durable, more elegant and lighter, if possible. The comfort of the patient was considered as only secondary to the perfect support itself. The result of all this energy has given us a very complete line of supports, and in the hands of competent surgeons excellent results.

While the corset principle, or that of moderate extension with fixation, is the leading principle of mechanical treatment of spinal caries. I do not wish to deny that

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the leverage fixation principle of the brace properly carried out in expert hands yields remarkably good results. The truth lies to a certain extent between the views so eagerly held by the two schools, and I further believe this capable of demonstration.

In studying my cases under treatment in hospital practice, where I have used the plaster-of-Paris jacket almost entirely, intelligent adults requiring support invariably have said that they wanted more pressure on the sides and beneath the prominences. This was partially accomplished by pressing in the plaster, while yet soft, with the ball of the thumb or pads. In private practice I accomplish this end by making a cast and modelling it, and then make the jacket over the corrected cast. We thus get something that the brace does in addition to the extension gotten by the corset. I expect to publish this more fully later and hence only allude to it now.

Some years ago Dr. Milton J. Roberts, formerly professor of orthopedic surgery at the New York Post-Graduate Medical School and Hospital, with whom I was associated in private practice and as lecturer on orthopedic surgery at the same school, and whose ingenuity did so much for the progress of mechanical therapeutics, believed in the principle laid down many years ago by Dr. Davis, that extension *is* fixation. This can be demonstrated in knee-joint disease or hip disease, by painless motion being permitted when the limb is carefully extended. Acting on this principle Dr. Roberts devised apparatus for almost every joint of the body, among them a woven wire corset for the spine, which forms the basis of this contribution. I carefully followed the development of the support step by step, working with him through a long experimental trial. Difficulty after difficulty was overcome until we felt we had a support more satisfactory for the great majority of patients than any before the profession. The great problem to overcome was the difficulty in keeping up the extension which we have seen means fixation, owing to the yielding nature of the material, and this to my mind was never quite satisfactorily accomplished at the time of Dr. Roberts' untimely death six years ago. Since then I have faithfully labored to perfect the support I so thoroughly believed in, and I have carefully refrained from publishing anything, prefering to thoroughly test the efficacy of the support which had been called in question and wait until I was certain that I could present to the profession a support as nearly ideal as anything in this line can be called ideal. By ideal is meant: 1, satisfying mechanical problems and, 2, satisfying the comfort and esthetic requirements of the patient.

No boast is intended in saying that, did medical ethics allow, I have many patients to-day wearing the support who would only too willingly testify to its superiority in every way over wood, paper, aluminum, leather, plaster and braces they have worn. I do not wish to stray from my object to keep close to the naked details, leaving the rest to your judgment.

THE SUPPORT OF THE CORSET.

To fully satisfy myself on this point, and being thoroughly familiar with the requirements of patients suffering from acute Pott's disease, acquired from a long experience in hospital orthopedic practice in the use of the plaster-of-Paris corset, I selected cases from my private ones. Those were chosen requiring maximum support due to the disease being in a state of activity, or, in some few cases, where partial ankylosis had taken place but where the deformity was very great—such requiring approximate maximum support. Further, my studies were made on patients only who had worn rigid apparatus applied by experts whose names are familiar to you all.

Most of our patients suffering from acute Pott's disease, I need not tell you, are children, but here we are denied any expression of opinion beyond that of positive pain and discomfort. I then selected *observing* adults, and those of you who have treated many adults suffering from Pott's disease who have worn appliances before coming to you will not question the word "observing." I know of no class of patients in the domain of medicine or surgery where the patients' observations are more valuable to the surgeon. We know that many of them become very expert and know at once whether they are getting proper support or not, and can tell if they are in the hands of practitioners experienced in the management of their disease. If I could properly support the cases I selected—those requiring maximum support—the question would be settled. The great majority of patients require support very far from the maximum.

I will not take your time in giving in detail the history of many of these cases.

Dr. M., aged 40 years, applied to me for treatment of lower dorsal caries, in October, 1897. He was then wearing a Taylor brace, which he had worn for some months, under expert advice. Prior to this he had been wearing a Shaffer brace. His disease was of one year's duration. When he came to me he was unable to stand with the brace applied, without holding on to something with his hands, and he complained of abdominal pains. He further manifested some compression paralysis, as evidenced by exaggerated knee-jerks and weakness of the leg muscles. Examination revealed a tubercular involvement of the tenth and eleventh dorsal and first lumbar vertebræ. He said that the deformity was increasing in spite of the brace—"a new lump," as he expressed it, had appeared during the past month. I found that in suspension it required a removal of forty pounds, registered by my suspension apparatus, to give him maximum relief.

This patient further had marked evidence of tubercular involvement of one lung, as evidenced by free broncho-purulent expectoration, moist râles, circumscribed area of dulness, temperature rise, and tubercle bacilli. Here was indeed a complication. Few more serious conditions of the disease have ever come under my experience in hospital or private practice.

I applied a wire support, but found it necessary to make a new one after one month. After the application of the second support, modified slightly, he obtained complete relief and improvement which has continued steadily followed. The deformity, which was increasing, was held in check and has improved. All pain has disappeared, together with all signs of muscular weakness of the lower extremities. He is still wearing the same support applied eighteen months ago. He walks briskly and has attended to his business throughout. I may add that he had been taking carbonate of creosote in large doses prior to my seeing him, and still continues to take it. He requires much less support now than he did eighteen months ago.

Here was a condition to test the efficacy of any support in a most intelligent professional man, keenly observing and critical and, from long suffering, irritable to a degree.

A young woman, aged 35 years, was referred to me by Dr. Williams of New York. On Dec. 2, 1898, she applied to me with caries of the four lower dorsal ver-

tebræ. The disease was of several years' duration, the "bos" very pronounced. She had worn braces, plaster-of-Paris jackets, and when I saw her was wearing a Hawk's paper jacket—all these had at different times been applied by specialists. The supports so far had failed in getting in between the thorax and pelvis on the right side, resulting in her continually settling to that side. She was suffering from lack of support, in consequence, and symptoms of a progressive paralysis were beginning to show themselves. She suffered from twitching of the leg muscles and was obliged to go to bed every few days.

I modeled her cast with the usual great care, and succeeded in applying a support so that the thorax was somewhat held away from the pelvis. The effect of this was marked in relieving her symptoms. The getting in between the thorax and brim of the pelvis had been the difficulty that so far surgeons had been unable to overcome in her case. She immediately began to improve. All symptoms of lack of support disappeared, together with the symptoms of compression paralysis and disappearance of twitching of the leg muscles. She wears the support with great comfort, and is able to be up and about all day, attending to her usual domestic and social duties.

A young woman, aged 24 years, was referred to me by Dr. Nunn of Savannah, Ga., for treatment of dorsal caries involving the sixth, seventh, eighth and ninth dorsal vertebræ, with very great deformity. She had been afflicted since childhood and had had repeated spinal abscesses. She was of a nervous temperament and the skin on the trunk was exceedingly hyperalgesic. She had tried to wear a great variety of supports during her long period of suffering, among them plaster-of-Paris and wood corsets applied by New York specialists. She was unable to wear an absolutely rigid appliance even from the hands of experts, preferring, as she expressed it, the suffering incident to her disease to that of the hard supports. As a result symptoms of lack of support manifested themselves continually. From time to time she had twitching and spasms of the leg muscles, and weakness and a great feeling of continually settling. From her inability to wear a support the thorax had so settled that the lower ribs were in contact with the pelvis. From the irregular settling there was also a lateral tilting of the spine. From a plaster mould I modeled a cast and succeeded in holding the ribs away from the pelvis, and, by graduating the pressure as she could bear it, I succeeded in getting a *pousto* to sustain the superimposed weight. She was 1½ inches taller when the apparatus was applied, and was soon able to walk more erect than she had done for years, and with very little fatigue. The improvement was remarkable. This was the first support that she had ever been able to wear. The failure made by those who had endeavored to adjust more rigid supports is sufficent evidence that it was impossible.

A case where support short of maximum was required, but where a certain amount of freedom was desirable:

Dr. N., affected with Pott's disease of the tenth and eleventh dorsal and first lumbar vertebræ, applied to me for treatment, in October, 1895. He stated that he was unable to wear any one of a half dozen different kinds of support that had been made for him, all day. He had been compelled to give up much of a very large practice, but wished to attend to the strictly office part. The various supports he had gave him so much discomfort that he was obliged to take them off several hours during the day. Among those he had may be mentioned plaster, wood, leather and aluminium. All had been applied by specialists. I succeeded in applying a wire corset, giving him the necessary amount of support with a certain degree of freedom that enabled him to attend to the desired part of his professional duties and made life bearable and, indeed, quite comfortable. He wore the support all day with but little discomfort. The observations of this very intelligent physician were invaluable to me. Being of a marked mechanical turn of mind, and appreciating the various points of any mechanical appliance, made his experience valuable to the surgeon treating him. I questioned him again and again as to whether he felt he was getting thorough support. His answer always was that nothing he had ever worn gave him more support, and in none had he felt so comfortable. He has been under my observation ever since, and is decidedly better. It is yet inadvisable for him to go without the support.

I could cite many other cases under treatment, but do not wish to take more time. So much, then, regarding the question of support.

ELEGANCE OF THE SUPPORT AND COMFORT OF THE PATIENT.

After we are satisfied that we are using an appliance which meets the therapeutic requirements of the patient, which must always be decidedly classified first by the conscientious surgeon, the elegance of the support to be recommended and the comfort of the patient strongly appeal to us.

Here the support will show for itself. Thoroughly open, perspiration can go on freely unimpeded. The subject of retained perspiration and resulting disagreeable odor is a constant complaint I hear from those who wear the more solid appliances. This support is readily kept practically aseptically clean. Again, the movements of respiration are not unduly restricted, yet the support follows the body during expiration as well as inspiration. The surgeon sees at a glance when the support fits the body, and a certain amount of modeling and graduating is permissible which is not possible with any absolutely rigid appliance.

One word regarding the aluminium corset that has recently become somewhat more manageable in the hands of Dr. Phelps. It marks no advance over any of the dozen other rigid corsets now in use from a thereapeutic standpoint. It is quite as hard and unyielding as steel, and when once made is virtually unalterable. Were the torso like a rod of iron—the same to-day and to-morrow and next month—then we could fit it and look to our solid aluminium band to keep its position unchanged and unchangeable. But the torso is not like iron or wood, not even like the legs or arms, but changes with each respiratory movement. Right here is claimed a great superiority of the support I show you. I attribute a great share of my excellent results to having been able to support the body every moment and to graduate pressure where it was needed by modeling the support to accurately fit the patient at all points where a close fit was desirable.

The aluminium brace is lighter than most rigid supports—a distinct advantage—but it is not so manageable as some others—an offset to its lightness.

The patients who appreciate the wire corset are those who have worn rigid ones. You bore holes through your leather, your wood, your aluminium, your plaster, and you still have an imperfectly ventilated apparatus; you still have a rigid appliance the wearer is totally unable to disguise. This is indeed a sad affliction for

a woman who cares for the appearance of her figure and the comments of a curious public. The comfort and appearance of our patients is too often lost sight of.

Finally, I need not tell you that the successful use of any support, like a remedy, depends on the way it is used. One does not attempt the treatment of spinal caries very long before he sees that each case is a problem requiring adaptation of the thing at hand. I can not better emphasize this than to use the apt expression of Dr. Phelps, when he says that *plaster of Paris is effective as a brace or support only in proportion to the amount of gray cerebral matter mixed up with it.* I would add a third ingredient to the mixture, viz., an adequate experience. While true of any mechanical appliance, it is especially true of the woven wire corset, in order to get the best results. During an experience of twelve years in the use of this support, from its very incipiency through a long evolutionary stage in the hands of my friend and associate, Dr. Roberts, to its present state of approximate perfection, many patients —some most difficult to support—have come under my treatment. So far, as already stated, I have carefully refrained from publishing anything regarding results until I could speak from a thorough knowledge of the subject, based on an extended experience.

48 East Twenty-sixth Street.

IMPROVE THE SPECIES.

BY H. C. CROWELL, M.D.
KANSAS CITY, MO.

Conforming to established custom, I am expected as your president to deliver an address on this occasion. I shall disappoint, or gratify, you by departing in some essentials from the usual style and character of the address, and content myself by briefly referring to some things which might, in my opinion, profitably occupy the thought of the medical profession. I shall not attempt more than to bring the questions before you, leaving the discussions largely for others who may be so disposed.

There are many things practical to us as a profession, people and nation, that might be considered with profit to us collectively, but since it can not benefit any single individual by agitating these questions, it is safe to say they will remain but imperfectly considered.

At the recent Hereford Cattle Show, held in Kansas City, with its large number of fine cattle, excellent and perfected in every particular, over the ordinary every-day common breed, I was forcibly impressed with the degree of excellence to which these cattle had been brought, but the attainment of this degree of perfection did not so occupy my mind as the means employed to bring about such ends, and I could not refrain from making comparison with the development of a people, the intelligence, the power, the agency of greatest import in carrying out the destiny of creation. How neglected, how utterly disregarded, are all laws for higher and more perfect development, when applied to the human race.

Is it less important that the most potent factor in making history, man, should receive less thought and care in his pedigree, than the dumb beasts, his slaves? Such we are compelled to admit is the case. In the case of the animal we look carefully to his pedigree, we know to an absolute certainty what degree of purity his or her blood contains. Perfection is sought in every particular. The contour, temperament, durability, nature and peculiar class attributes are sought out in both the male and female, in order that their union may produce the most typical specimen of their kind. The care given the progeny of well-selected antecedents is directed to the end of perfecting and developing to their fullest capabilities, their inherent possibilities; no detail is neglected.

In seeking to perpetuate their kind, only the most perfect, according to a critical examination, are set apart for this purpose.

If this higher degree of development and perfection is desirable in the dumb beasts, in creatures that figure but in a material way in the perpetuating of worlds, how much more should it seem that some regard should be paid to the rules governing development and perpetuation by the human race? Why such utter disregard of all laws of development and improvement among men? We should remember that the progeny always corresponds to its progenitors; that its tendency is to degenerate rather than to improve, generation after generation, unless care is exercised to introduce improved blood on one side or the other. If the blood of one parent is tainted with some infirmity, weakness or peculiarity, it is quite apt to be visited on the progeny.

In the human family we observe none of the precautions taken by the cattle-breeder; here chaos reigns supreme. No law, no rule, no custom nor thought governs in the selection of mates in the human family. The only governing factors are passion, fancy and fortune, either of which outweighs any physical or mental consideration. The phthisical are joined to the phthisical, the neurotic to the neurotic, the vicious to the vicious, and so on through the category of inheritable features, until we have come to a nation of cripples, dyspeptics and neurotics, inferior in stature and durability, if not intellectually. Such being the case, then, to a greater or less degree, should we not learn a lesson from the grower of the lower animals, and insist that such rules and regulations be established as shall aid, at least, in stamping out inherited vices and disease, and bring about a higher order of beings; beings with better mental and physical constitutions. This is a political question which will, perforce, interest those who come after us, if it does not us; for the tendency is, by the promiscuous marrying and intermarrying, regardless, to a degeneracy of the race, which in time must affect a nation. Indeed, it may be truthfully said that to this cause, more than any other, may be attributed the fact that the descendants of Julius Cæsar have degenerated to banana-sellers, those of Demosthenes to the candy-venders of our streets and those of the mighty Moor are relegated to the deserts of Africa.

Let us have laws which shall prevent flagrant violations of all physiologic precepts, and a higher and better manhood. "Let the medical profession awaken to the fact that it owes a duty to the world more than simply modifying the results of disease. Moral vices are plunging the nations of the earth into crimes far worse in their effects, present and ultimate, than scores of the diseases for which we have no remedies."

Turning from cattle to the "horse," we see even greater evidences of improvement as the result of care in reproduction. Here we see special qualities brought to the highest degree of perfection, independent of instruction in an individual instance. It is noticeable, however, that with the higher blooded "horse," his intellectual nature is keeping pace with every other development. The stature, style, action, durability and gait have been subservient to care in pedigree until the

*Presidential address delivered before the Western Surgical and Gynecological Association, Des Moines, Iowa, Dec. 28, 1899.

most sanguine expectations of the horsemen have been realized.

In the dog, intelligence and all those attributes which constitute the desired qualities of its class are brought so nearly to a state of perfection that multitudes often express amazement at the possibilities in dog creation.

Looking now to the beauties of Nature, as seen in the flower kingdom; we are told of wondrous changes and added beauties, brought about through the agency of man, by adding up, in certain directions, individual differences, producing wondrous and striking changes in their attractive qualities, as well as modifying their aromas to the utmost pleasing degree.

Thus we see that man can bring about almost any change he may desire in domestic animals and plants, by a careful painstaking study of differences. Perfection has been the high ideal, and as a result a better product has been secured.

Is there less reason for improvement in the higher order of creation than in the lower, that causes absolute abandonment or neglect of laws which shall maintain the present standard, or give us an improved class of beings? It is well understood that continued cultivation of a certain soil or of a certain class, without infusing something that shall maintain its power of reproduction, tends to a weaker and lower order of things. This principle and knowledge is taken advantage of by man in caring for the lower order of creation, but not his own species.

This neglect, along these lines, in betterment of self, is not, as we have seen, in consequence of lack of intelligence and knowledge of what can be accomplished by "natural selection," but must be the result of neglect, or an uncertain starting-point—a sacrifice of high ideals, for mercenary or passionate fancies. I can not better express my convictions along this line of thought, perhaps, than by quoting the lines of an original thinker, one whose thoughts, although not popular with some, will yet be handed down as among the best, purest and containing more of honest conviction than those of some possessed of more popular favor, one who was born a hundred years too soon. I refer to the late Robert G. Ingersoll:

For thousands of years men and women have been trying to reform the world. They have created gods and devils, heavens and hells; they have written sacred books, performed miracles, built cathedrals and dungeons; they crowned kings and queens; they tormented and imprisoned, flayed alive and burned; they have preached and prayed; they have tried promises and threats; they have coaxed and persuaded; they have exhorted and taught, and in countless ways have endeavored to make people honest, temperate, industrious and virtuous; they have built hospitals and asylums, universities and schools, and seem to have done their best to make mankind better and happier, and yet they have not succeeded.

Why have the reformers failed? I will tell you why. Ignorance and vice are populating the world. The gutter is a nursery. People unable even to support themselves fill the tenements, the huts and hovels with children. They depend on the Lord, on luck and charity. They are not intelligent enough to think about consequences or to feel responsibility. At the same time they do not want children, because a child is a curse, a curse to them and to itself. The babe is not welcome, because it is a burden. These unwelcome children fill the jails and prisons, the asylums and hospitals, and they crowd the scaffolds. A few are rescued by chance or charity, but the great majority are failures. They become vicious, ferocious. They live by fraud and violence, and bequeath their vices to their children.

Against this inundation of vice the forces of reform are helpless, and charity itself becomes an unconscious promoter of crime.

Failure seems to be the trade-mark of Nature. Why? Nature has no design, no intelligence. Nature produces without intention, and destroys without thought.

Man has a little intelligence, and he should use it. Intelligence is the only lever capable of raising mankind.

The real question is, can we prevent the ignorant, the poor, the vicious from filling the world with their children?

Must the world forever remain the victim of ignorant passion?

Can the world be civilized to that degree, that consequences will be taken into consideration by all? Why should men and women have children that they can not take care of, children that are burdens and curses? Why? Because they have more passion than intelligence, more passion than conscience, more passion than reason.

You can not reform these people with tracts and talk. You can not reform these people with preach and creed. Passion is, and always has been, deaf. These weapons of reform are substantially useless. Criminals, tramps, beggars and failures are increasing every day. The prisons, jails, poor-houses and asylums are crowded. Religion is helpless. Law can punish, but it can neither reform criminals nor prevent crime.

The tide of vice is rising. The war that is now being waged against the forces of evil is as hopeless as the battle of the fireflies against the darkness of night.

There is but one hope. Ignorance, poverty and vice must stop populating the world. This can not be done by moral suasion. This can not be done by talk or example. This can not be done by religion, or by law, by priest or hangman. This can not be done by force, physical or moral.

To accomplish this there is but one way. Science must make woman the owner, the mistress of herself. Science, the only possible savior of mankind, must put it in the power of woman to decide for herself whether she will or will not become a mother.

This is the solution of the whole question. This frees woman. The babes that are born then will be welcome. They will be clasped by glad hands to happy breasts. They will fill homes with light and joy. Men and women who believe that slaves are purer, truer than the free, who believe that fear is a safer guide than knowledge, that only those are really good who obey the commands of others, and that ignorance is the soil in which the perfect perfumed flower of virtue grows, will, with protesting hands, hide their shocked faces.

Men and women who think that light is the enemy of virtue, that purity dwells in darkness, that it is dangerous for human beings to know themselves and the facts in Nature that affect their well-being, will be horrified at the thought of making intelligence the master of passion. But look forward to the time when men and women, by reason of their knowledge of consequences, of the morality born of intelligence, will refuse to perpetuate disease and pain, will refuse to fill the world with failures.

When that time comes, the prison walls will fall, the dungeons will be flooded with light, and the shadow of the scaffold will cease to curse the earth. Poverty and crime will be childless. The withered hands of want will be stretched for alms. They will be dust. The whole world will be intelligent, virtuous and free.

It is better to be free, to leave the forts and barricades of fear, to stand erect and face the future with a smile. It is far better to give yourself sometimes to negligence, to drift with wave and tide, with the blind forces of the world, to think and dream, to forget the chains and limitations of this breathing life, to forget purpose and object, to lounge in the picture gallery of the brain, to feel once more the clasp and kisses of the past, to bring life's morning back, to see again the forms and faces of the dead, to paint fair pictures for the coming years, to forget old gods, their promises, and threats, to feel within your vein life's joyous streams and hear the martial music, the rhythmic beating of your fearless heart. And then to rouse yourself to do all useful things, to reach with thought and deed the ideal in your brain, to give your fancies wing that they, like chemist bees, may find art's nectar in the weeds of common things; to look with trained and steady eyes for facts, to find the subtle threads that join the distant with the now, to increase knowledge, to take burdens from the weak, to develop the brain, to defend the right, to make a palace for the soul.

In these lines we observe how keenly is appreciated a degenerative tendency under existing comprehension. Intelligence must supplant passion, fancy and fortune. And how shall that be accomplished, is the great and absorbing question. Education along physical lines must be the most potent factor in effecting desired changes. This education will devolve on the medical profession largely, or at least primarily, until the principles are more perfectly comprehended in the home. The national government can and should do much in bringing about desired reforms, by sending literature, giving wholesome information into every home. Material industries are fostered and abetted by government investigation and experiment. Ignorance is often more at fault than perverseness or negligence, on matters pertaining to reproduction. Improper marriages between the weak mentally or physically, or the vicious and criminal classes, should be interdicted by law. With the marriage license should go the endorsement of competent medical authority, after being furnished with authentic family history.

With care in these directions, happiness would in no way be lessened, but insured as nearly as possible, other things being favorable. It may seem to many that such an arrangement is purely idealistic, and so it may be, bu capable of realization if sufficiently and properly agitated by the medical profession, whose members have a better opportunity of observing the needs of reform than any other class of citizens.

By care along these lines, actuated by honest conviction, shrinking not from public opinion, much can be accomplished for the welfare of people and nations. It will be truly said that already some states have moved along these lines, and in that much be it to their credit. The essential need is that such safeguards be widespread, numbering all the states and territories, making it impossible to step out of one domain into another, to commit an act which, in their own, is considered unlawful. Strength, force, morality and intelligence come only from good breeding.

A nation's durability, its dignity and position of influence, depend on her people and her institutions, all of which are the resultant force of proper regard in reproduction.

"Nature is revelation, and the light of truth shines everywhere in the world. The want of faith and refusal to reason of men, interposing, make the shadows. Man is blindfolded by himself."

This matter is not one of sentiment alone, but one of serious fact—a question which must, sooner or later, awaken a lively consideration. It is so far-reaching in its effects, with the pernicious results disseminated, that the superficial thinker might readily fail to observe its tendencies and ultimate results; like the wearing of the waters of Niagara upon the rock, slowly but certainly cutting into and destroying the original stability of society and government.

So long as such subjects as Mulligan McNulty, a four-term convict of Kansas, who slashed the throat of Deputy Warden Thomson, from simply a desire to cut some one, and without provocation, can, at some time when free, marry and probably be the father of a son, very likely to be born with perverse if not vicious passions, we can not hope to lessen our prisons and almshouses, or add to the safety of individuals or institutions.

This class of individuals, together with those of mental unsoundness, should be isolated and prevented from marrying, even though they might secure the flower of society. With a proper quarantine, vice and degeneracy could be stamped out, and in its place liberty, strength and happiness spring up, which would characterize such a condition as that of the millennium.

The restrictions and limitations which this paper would imply do not so much refer to the higher order of society, although even this class is not free from violations of such observations in mating as shall secure healthy sound offspring. The lower classes contain most of depravity, and disregard in the most flagrant manner all conscientious scruples, even carrying known communicable infirmities to the innocent. These the world over have been the most prolific in populating the world, and sowing the seeds that have occasioned the demand for prisons, almshouses and asylums. These classes have well-nigh taken the management of corporations out of the hands of the owners, and practically disfranchised the sober, thoughtful citizen. The prosperity of a country has never been found to depend on its great numbers, but on its intelligence, and its physical, mental and moral soundness.

The principle of expansion which now prevails is undoubtedly good, viewed from a commercial standpoint, but when we look beyond, we might reasonably speculate in regard to the resulting population generations hence. True, we might say that is a question so remote that we need spend no time in its consideration. But are we correct in discharging this question so peremptorily?

Let us look back a few years and observe what the feeling has been in regard to unrestricted immigration. A halt has been called, not from lack of domain, but from a lively realization of a too rapid increase of an undesirable element. And so we have every reason to expect what might be the result of an extensive aggregation of an inferior people marrying and intermarrying, without restriction or regulation.

Such has been the history of other countries, from which we should profit. Finally, not to be interminable, we are impelled to say that degeneracy is the result of fostering or permitting the perpetuation of weakness, moral, mental or physical, each generation growing weaker. *Shall we not awaken to the fact and check it?*

FAMILY DISEASES.*

BY WHARTON SINKLER, M.D.,
AND
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PHILADELPHIA.

The term "family diseases" includes a wide field in medicine as to generations and yet is perhaps more limited in number of actual cases existing than the monograph and text-book articles would lead us to believe at casual observation of these very interesting phenomena. The object of this contribution to the familial affections is to present all the cases that could be found within the direct and indirect observation of the authors. For it is only by such personal considerations that the true bearing of so difficult a problem can be elucidated in proper relation to the individual practitioner. We can perhaps best divide the subject, broadly, into the classes: 1. Hereditary maladies. 2. Family tendency to a certain disease in special generations without hereditary taint. Then subdivisions may be rightly made into the more general and hereditary, or not, affections, involving for example the cardiovascular or pulmonary systems or the nervous system with which

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we are chiefly concerned. The subject of anomalies does not concern us from the point of prophylaxis, on which we hope statistics may throw light. Of more specific beginning maladies, next may be mentioned such conditions as affections of the auditory—deaf mutes—and optic nerves—blindness. 3. We have also the special family types of nervous disease, so-called Friedreich's disease, and Huntingdon's chorea, so well known to be hereditary in nature though so rare. It is to these latter and to diseases of family type, whether hereditary or not, also of organic disease of the nervous system, especially, that the investigation portends, and from which other maladies may be better studied.

SOMATIC HEREDITY.

The subject of cardiac and pulmonary diseases is so well known to have a hereditary tendency in certain families that they are not here to be again detailed. The heredity as to tuberculosis is so flagrant, yet we feel that it needs constant reiteration; especially in its association with the neuropathic individual, if prophylaxis is to do the highest good.

By such better understanding too, of heredity of inheritance and tendency to disease, the future of the races is to be conserved. Regeneration is to be striven for even in the progeny of mild degenerates.

MUSCULAR DYSTROPHY.

The cases of progressive muscular atrophy have been reported in another place by Eshner. No case of heredity of this disease was discoverable among the cases at the Infirmary for Nervous Diseases. Out of the twenty-five cases, three were in the same family. Three died of phthisis. Roberts gives the percentage of heredity in this disease as 26.63, so that inheritance through other organic disease or predisposition plays perhaps as important a rôle in the vicious circle.

EYE AFFECTIONS.

The interesting series of cases to be published in the monograph by Dr. C. A. Oliver, on a form of hereditary optic atrophy, has been traced through six generations, dating back into 1700. The family "tree" here shows that the atrophy began in the female, but that in the progeny the affection has always passed to the male child through an unaffected female. Out of 153 persons, 22 of them are affected with this atrophic degeneration. The trouble begins about at adolescence as a rule; some cases have begun so late as at 35 to 40 years. One of the writers has had the privilege of observing and testing the gradually diminishing fields of vision in the half dozen of these cases. In "A Study of the Blind[1]," one of us has noted hereditary optic atrophy in several families of children. Hereditary choroiditis is another condition shown in the table, so that the field of heredity grows larger in ophthalmology as we investigate.

DEAFNESS.

One of the writers had under his care a deaf man, aged 40, one of nine children, and whose parents were normal. Five of this family were born deaf—atavism—but are bright in all other ways. The subject of hereditary deafness has been thoroughly discussed in a recent work[2]. These studies were made by the Volta Bureau with the aid of the U. S. Census Bureau. In regard to the same subject, Dr. A. L. E. Crowter, superintendent of the Pennsylvania Institution for the Deaf and Dumb, under date of June 1, writes as follows: "Replying to your inquiries relative to the number of pupils in this institution, born of deaf parents, also the number of pupils born deaf, I beg leave to say that out of 505 pupils now in attendance, I find fifteen were born of deaf parents, and that 150 (15 of deaf parents and 135 of hearing parents), almost 30 per cent., were born deaf." The atavistic tendency of deaf persons to be born of the hearing, and vice versa, again proves the exception to the rule. The only safe criterion for prevention of possible hereditary deafness would be the voluntary non-marriage of families where deafness is in the history. The same would hold good in other traceable diseases.

NERVOUS DISEASE HEREDITY—FROM THE INFIRMARY FOR NERVOUS DISEASE.

The cases here recorded are those where, in the histories, it is explicitly stated that heredity exists or that a number of cases of a certain disease coexist in one family. The immense number of tics and cases of migraine are, from meager data, excluded.

The literature of family types and of hereditary diseases is enormous. The writers make no special investigation therefore as to bibliographical data, but present, in the following study, a record of cases indirectly or directly observed, largely in neurologic lines, in the hope that such data will throw more light on this intricate problem. In going over 16,500 cases occurring at the clinics at the Orthopedic Hospital and Infirmary for Nervous Diseases, and in the wards and in private practice, the writers have endeavored to make a classification of those cases in which there seems to be a grouping of a number of disorders in one family, hence the title given this paper. That there can be no accurate classification of a number of individual cases, as far as we are able to study the history, is evident. This limitation of knowledge does not necessarily, however, disprove a latent heredity as being existent, e. g., in a large number of tics and cases of migraine. That the large majority of all diseases are not secondary to previous hereditary taint is upheld. But that the hereditary factor, while admitted, is not so clearly elucidated as might be is the contention made, and it is with the hope of determining this element in medicine that the study of the broad subject of hereditary disease is here undertaken through analysis of a fairly large number of cases. With a better understanding of transition or equivalent diseases throughout a particular class of individuals or families, will prophylaxis, pathogenesis, prognosis, treatment and pathology all be extended to the greatest good to humanity.

CORD DISEASES.

1. Primary lateral sclerosis is a very rare affection of the spinal cord and we have been unable among the cases analyzed to determine any case existent in successive generations. The essential nature of the case of M. McB., a female, beginning at her 19th year, shows a tendency to heredity in the fact of early age in this developmental type of system disease coming on without any known exciting cause whatever. Perhaps this is but an evidence of waning power in a generation with an undeterminable unstable nerve protoplasm. The frank syndrome of symptoms existing in spastic paraplegia from cerebral or in later adult lateral sclerosis does not exist in the primary affection mentioned. The muscles seem more flaccid, sensation less disturbed, extremities cold and clammy, and while the coarser movements of the extremities are very inco-ordinate, as with the fingers, yet the patient is still able to do fine work, such as sewing, with comparative ease. The prognosis as to prolongation of life, too, is singularly more favorable than in secondary sclerosis where also an incipient

tuberculosis is more apt to complicate, even if the sclerosis may happily become little or non-advancing—helpful knowledge for the physician.

Insular sclerosis of more distinct family type is shown in G's family, in which the father was a drunkard and most likely the subject of specific disease, who had violent maniacal outbursts and at middle life developed apoplexy, hemiplegia, epileptoid seizures, and progressive paretic dementia. The mother was a fairly robust woman until 65 years old, when she died of carcinoma uteri. Of twelve children, two died in early infancy. One daughter, at 4 years of age began to become spastic, and to develop nystagmus with bulbar symptoms. This has progressively increased with notable remissions, until the present time, her 31st year.* A younger brother, aged 25, has been afflicted with lateral and mixed sclerosis mostly affecting the lower extremities since 15 years of age. There are no eye symptoms in him; the knee-jerks are plus, and ankle-clonus is present; there is some head inco-ordination. The tendency to sclerosis in another boy developed at 7 years of age, along with feverish condition, and he remained so for several years. At 13 years of age, in 1896, it had entirely disappeared, he being quite well. This latter case seems to illustrate a possibility in restoration of functions and structure through better nutrition. The hereditary taint of faulty protoplasm came in major part through the paternal ancestry. This particular family has been under the observation of Dr. S. Weir Mitchell for a number of years.

The hereditary factor in idiocy and cerebrospastic paralysis does not bear so close a family-type relation as one might suppose, yet an instance of two imbeciles and an epileptic child has recently come under observation of one of the writers, the father being one of the lower class of alcoholics, the mother of feeble physique. The two imbecile children resemble the father in appearance, and the epileptic child much resembles the mother in this—both being of very refined natures and the girl particularly bright though subject to frequent attacks of petit mal.

Another clinic case of myxedema—cretinism—which has been reported by one of the writers, also demonstrates unstable nerve protoplasm through a brother who, after recently being subject to measles, developed peculiar stammering sequent to the infectious process, again showing weakened trophic state of his neurons.

One of the authors has endeavored to classify the hereditary element in 532[3] cases of mental impairment, but the histories were often so falsely stated that it was impossible to get the accurate information other than the generalities suggested here.

We give below tables of the actual number of family diseases recorded, as indicated in the 16,500 histories studied.

TABLE 1.—CORD DISEASE.

Hereditary spastic palsy: 12 children; one female developed the disease at 4, one male at 7 years.

G. family: father dissipated and hemiplegic; no further heredity.

M. McB.: no ancestral cord affection, but no doubt "developmental."

McC. family: 7 children, 3 affected with insidious palsy in one or other leg. Doubtful lead poisoning or infantile palsy.

A. J.:[4] aged 19 years, reported by Dr. J. K. Mitchell,[5] a case of periodic paralysis in three generations: maternal grandfather and his first cousin, mother and her two brothers—one brother, one attack only—then a first cousin, daughter of a brother, making seven cases in all.

Mrs. B.: reported by Dr. Wharton Sinkler;[6] asthenic bulbar paralysis; family type in that nystagmus exists in patient and two brothers; one son, aged 15, also nystagmic; babe 14 months old, also; father died of apoplexy; maternal grandmother blind for years.

Dr. C. A. Oliver's cases: some examined by one of the writers; six generations of hereditary primary optic atrophy in male element of family.

Private case of Mr. R.: aged 60 years; high myope, congenital choroiditis wherein lenses since eight years; two uncles and an aunt similarly affected.

Private case: at 5 had chorea; before marriage had sunstroke; died in later life of meningitis.

Huntingdon's chorea: case reported by Dr. J. K. Mitchell.

See also—tree—cases of Dr. A. J. Ostheimer of Kathcart Home, Devon, Pa.

TREE DENOTING TRANSMISSION OF HUNTINGDON'S CHOREA AS PER TABLE.

A. Father: Died at 73 years with chorea, chorea beginning at 58 years.

B. Daughter, died at 70 years, with chorea and dementia. | Son, now 68 years, has no chorea. | Mrs. Tine, *patient*, died at 82 years with chorea beginning at 62 years. | Son, now 72 years, has chorea as patient had. | Daughter, 75 years, has slight chorea.

C. Son, now 57 years, has had choreic movements for 12 years. | Son, aged 47 years, no chorea. | Daughter, aged 60 years, no chorea.

D. Daughter, aged 31 years, no chorea.

One of the writers has also reported on hereditary chorea,[7] finding several instances where the disease existed in successive generations; not more than three being ascertained.

An example of singularities in the history of medicine is also shown here in relation to Huntingdon's disease, for while it was defined by Dunglison in 1841, and was described by J. W. Lyon in 1863, as chronic hereditary chorea, it was not distinctly recognized until Huntingdon wrote of it in 1872.

TABLE 2.—CASES OF FAMILY TYPE OF DISEASE, NOT DIRECTLY HEREDITARY AND NOT CONGENITAL.

S. T. C.: aged 35, male, single; infantile paralysis in right leg; a brother suffers from the same trouble.

C. S.: habit chorea; three children in family.

McD. family: seven children in family and three affected with muscular dystrophy.

Epilepsy: one case of idiopathic in a family and five of Sydenham's chorea in brothers and sisters.

Tending toward the ideal in the study of heredity and disease would be the determination of cases of family types of disease congenital and without direct hereditary history. Many cases of imbecility and cerebrospinal palsy must come under this category; those histories are most difficult to determine.

INFECTIOUS DISEASES WHERE IMMUNITY OR SUSCEPTIBILITY SEEMS TO BE GRANTED THOSE IN PROGENY RESEMBLING MOST THE PARENT THAT IS SUSCEPTIBLE OR NOT TO THE DISEASE, OR THROUGH VACCINATION-INDUCED IMMUNITY.

In this category we are able to give the unique example recently quoted by Dr. Gump before the Medical Society of Pennsylvania, of several children in a family resembling the parent and not vaccinated against smallpox, taking the disease, while those resembling the vaccinated parent did not develop the disease. This we consider a very important observation as to heredity in disease, and its leaning on heredity of characteristics as pointed out by Lombroso and referred to above.

*This woman has recently developed carcinoma of uterus also, as by examination to-day, showing heredity of Cohnheim.—Jan. 13, 1900.

TABLE 3.—CASES OF FAMILY TYPE OF DISEASE IN WHICH THERE IS DISTINCT HEREDITARY TRACING AND BEGINNING EARLY IN LIFE.

Of twenty cases of pseudohypertrophic paralysis of childhood recorded, none were traceable to previous dystrophy in ancestry. See Poor's table on heredity.[8]

S.: family; progressive pernicious anemia existing in two daughters aged 16 and 20, beginning in father, however, at 30th year; death at 45 years; no autopsy; symptoms of posterior sclerosis during life.[9] In this man the blood count averaged 2,700,000 and hemoglobin 27 per cent. There was no Argyll-Robertson pupil.

K.: family, locomotor ataxia; no injury nor specific disease in the patient seen, a male of 42 years; father died insane (melancholia); one brother had same trouble and shot himself.

M. H.,: aged 18; constant choreiform motion of right arm, ceased one day suddenly after four months' continuance; mother formerly had epilepsy, especially with movements of arm, probably simulation.

Woman: aged 45; father and husband insane; she is melancholic—true and false.

M. M.: male, aged 60, tic douloureux began at 16; a niece of 30 also a sufferer since her 15th year. We saw these two cases. It is most difficult to obtain accurate histories.

TABLE 4.—CASES OF FAMILY TYPE OF DISEASE IN WHICH THERE IS NO DISTINCT HEREDITARY TRACING AND BEGINNING LATE IN LIFE.

M. A.: aged 50; male; single; hemiplegic; father and mother died of apoplexy; of eight maternal uncles two died of paralysis—apoplexy (?).

Three cases of rheumatoid arthritis in one family—one male and two females—beginning after 35 years of age and producing extreme deformities.

Case of muscular dystrophy beginning in late youth and in several of family—a case of elephantiasis—idiopathic (?)—in one adult.

TABLE 5.—CASES OF FAMILY TYPE OF DISEASE OF ATAVISTIC TYPE, I. E., WHERE THE FAMILY DISEASE IS A DISTINCT ENTITY FROM THE FAMILY DISEASE EXISTING IN THE ANCESTRY—SUBSTITUTION DISEASES.

Litter of cats at Lewes, Del.: some in litter are deaf, with dark irides, other pink eyes—albinos—amblyopia; hearing good.

Cases in practice of Dr. C. A. Harnish, Huntingdon, Pa.: three of parenchymatous nephritis, children of same family; no etiology traceable; no heredity known.

A. B.: family; parents no relation; ten children—five deaf and dumb, five normal; father and mother are Russian Jews; father hunch-backed from Pott's disease, as the only ancestral disease known at Pennsylvania Institution for Deaf and Dumb.

C. D.: family; parents healthy and no consanguinity; seven children—three females—died of diphtheria when each arrived at 2 years of age; three boys and a girl, healthy.

Case of boy who at 2d year had convulsions followed by convulsive tic at 7th year, and by chorea at 12th year, following an attack of scarlatina; heart complication; death from endocarditis; one brother had several attacks of chorea.

Case of Friedreich's disease in B. R., female; 18; seen with Dr. John M. Swan; has developed tuberculosis; a brother died of phthisis; an instance of exception to the rule in our experience of congenital nervous disease, being less liable to secondary tuberculosis, and probably due to the tubercular diathesis being existent in the family at the same time. Case reported. College of Physicians, Jan. 8, 1900.

TABLE 6.—CASES WITH OR WITHOUT KNOWN HEREDITARY TAINT WHERE ONE SET OF CHILDREN DEVELOP ONE TYPE OF DISEASE, ANOTHER SET DEVELOP ANOTHER TYPE OF DISEASE.

Progressive muscular atrophy; male; age 25; three brothers died of phthisis.

Private case: V.; family; of eight children, seven died of scarlet fever—three in one epidemic; others died in separate, at different good hygienic localities; one son now under treatment in rapid phthisis, aged 30 years; no tubercular ancestry known.

Those peculiar types of family disease without known cause, in which male or female alone seem to be affected, we have given several examples of in nervous disease. No doubt there are many more instances of the same not recorded for want of accurate history taking; and that many cases of hemophilia and tendency to bleeding in families escape our attention.

Neurasthenia is in many instances the progeny of a hereditary predisposition, plus the exciting cause; but our tabulation could not be accurately made as to this broad field among the histories submitted to examination. Likewise with the migraines, which demand understudy before we can lay down safe prophylaxis or cure in these prevalent affections of Americans.

TABLE 7.—MISCELLANEOUS CASES AND SUBSTITUTION DISEASES. MANY CASES OF SPECIFIC DISEASE CURED BUT LEAVING A NEURASTHENIC TENDENCY IN PROGENY. NOT GIVEN PLACE.

Exophthalmic goiter: Bessie K., aged 24; aunt had same in childhood; cured; patient improved under galvanism.

T.: family; father hypochondriac; color-blind for red and green; same in a daughter; the phenomena not constantly complete.

Idiopathic muscular atrophy: two brothers aged 15 and 20.

Private case:[10] A. B., aged 20; intracanalicular fibroma of mammary gland; patient's mother suffered from the same trouble; both cured by operation.

Private case:[11] Hebrew, multipara, aged 51; tumors—fibroadenoma of both breasts; operation; cure. Mother had tumors of both breasts.

Private case: J. P., aged 30; mother a neurasthenic for years; patient acquired neurasthenia at 25, after full business life.

Private case: Mrs. F., aged 55; slight apoplexy five years ago; always nervous; worse since sunstroke—emotional; son, aged 29, through environment, generally nervous for years.

M. L.: aged 51; female; exophthalmic goiter; cured; daughter, aged 15, several attacks of chorea.

R. S.: aged 51; myxedemoid; one child mentally feeble, subject to night terrors, and one child choreic.

Case 15326: intercostal neuralgia, persistent one generation; angina in several of succeeding generations.

J. H.: aged 42: passed six months tubercular pleurisy; younger brother died of diabetes mellitus.

A. C.: aged 54; chronic rheumatism; daughter suffers from hay-fever; patient when young, subject to tonsillitis—transition.[12]

Case of Mrs. M.: aged 35; neurasthenic syncope; becoming epileptic at 40 years.

Mrs. McB.: aged 45; epilepsy; infrequent attacks of grand mal; aura begins several hours before attack, by twitching of left great toe; woman congenital as to dwarfism.

H. cases: diabetes in a male of 35, whose father and two brothers also suffered from diabetes mellitus.

Case of R. L.: aged 18; male; anteparenchymatous nephritis; an aunt and several uncles died of Bright's disease.

K. and brother: aged 54 and 56; uric acid diathesis and albuminuria of uric acid angina causing death of one.

We have thus found over fifty distinct instances—i. e., family genealogies—of family types of disease, including over 200 cases, or about one-eightieth of the whole number of cases examined.

A continuation of the study in regard to circulatory[13] disturbances leads us to think that cardiac and vascular disease will bear close hereditary relation to the ancestors' cardiac-vascular abnormalities; especially when resident in the parents. Further study as to this is being carried out, and tabulated data will be presented later.

By reference to tables herewith compiled, a more detailed notice of those cases we have observed is set down. The tendency of certain diseases to run in groups in different families or of a single disease selecting a certain generation, or again where one disease

is found to exist in but one person in each succeeding generation—all these bring into play vital phenomena which are nearly insurmountable for positive interpretation. But we can not point exactly to the close relation which often must obtain between blood relations, yet a number of examples of hereditary tendencies are brought out by meteorologic, climatologic, and bacteriologic exciting causes. We can at least stand on surer ground as to modifications of family disease in making statements about expectation of life in certain classes of them, where the vague predispositions can be better elucidated. This study teaches in a negative way the importance of the so-called individual element being given high place in sociologic considerations in health and disease. C. Lombroso has recently laid stress on "heredity of acquired characteristics," showing clearly such effects in health.

Then it will be in the line of truer consideration toward clearer elucidation of the subject of immunity, and poisons from within—toxins or metabolites—and from without—toxins, bacteria and other poisons—will be better understood as to their very full meaning to hygiene and disease. No surer thing is in medicine, which every physician of large experience will testify to, than that the vital element, almost beyond the limitations of human investigation for intricate details, adds a ponderous weight to the scales of living. If it can have been pointed out more forcibly in this paper to the advancing mind, that medical science can not go beyond a reasonable association with vital action, the endeavor will serve its intent. It is fitting, too, to bring the subject for discussion before one of the higher arts in medicine—neurology.

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DISCUSSION.

DR. F. W. LANGDON, Cincinnati, Ohio—I must confess that some of the conclusions appear to do violence to our preconceived notions. I noticed particularly the extremely small number of cases, only fifty in a total of 16,500, in which a disease could be traced as hereditary. It is quite possible that this small proportion of "hereditary disease" may be due chiefly to our refinements in nosology—rather than to any real lack of hereditary influence. In other words, it is a question of *name* not of *fact*. I am impressed with the great value of the paper, and the large amount of labor required to prepare it.

DR. F. SAVARY PEARCE, Philadelphia—It struck me just exactly as it struck Dr. Langdon, that in all this collection we were able to find so few cases in which a disease was handed down from one generation to another. The object of the research was to find out what number of instances in a large series of cases were really truly hereditary. A possible fallacy would be that the histories were not taken accurately, but at the Orthopedic Hospital and Infirmary for Nervous Diseases the case records are taken with considerable care and in great detail, and I believe they are nearly accurate in most respects. I hope the paper, when it is illustrated by details presented in the tables not read, may show something more valuable. It would seem from this investigation that in at least 1 to 75 or 1 to 80 cases of nervous disease heredity as to the same disease may be discoverable if properly searched for; while the proportion is vastly greater as to transmission of nervous predisposition to any form of neural malady in a lineage tinged with marked neuropathic diatheses. It should be stated here that hemicrania was not particularly dwelt on in tracing histories at the Infirmary for Nervous Diseases, except where it actually existed in the patient reporting for treatment; and this subject might be well worth careful statistical inquiry.

UNCOMMON PYOGENIC INFECTION OF THE MIDDLE EAR.*

BY ROBERT SATTLER, M.D.
CINCINNATI, OHIO.

It has long been recognized that cauterization of posterior and middle nasal hypertrophies, even if practiced with every caution in the selection of cases, method, and accompanied by every required antiseptic precaution, is not unattended by dangers. This warning is often not heeded until personal observation and experience have afforded convincing proof of its truth. Formerly, when the use of the galvano-cautery and other escharotic methods to effect the shrinkage of the hypertrophied areas of the mucous covering of the inferior turbinates was more general and their application more reckless, it not infrequently came to pass that acute pyogenic infection of the middle ear, of the ethmoidal cells, and even septic infection resulted as a complication in cases even where the operation was clearly indicated and necessary.

The destruction of posterior hypertrophy in particular is fraught with risk and danger. Fierce resentment on the part of the cauterized region, altogether out of proportion to the slight local injury inflicted, terminates in sphacelation and is followed or attended by destructive complication of the adjacent cavities and sinuses.

More recently, with careful selection of cases and greater circumspection in the choice of methods, with the use especially of the cold snare for the posterior thickening and the rigid avoidance of the thermo- and galvano-cautery, the frequency of occurrence of these often grave secondary complications has been markedly lessened.

It is true that in many cases the process which is excited as a result of the cauterization causes an acute purulent otitis media only, with perforation of the drum, but stops short of further destructive inflammation elsewhere. In a few cases, however, the pyogenic products which are present in the nose, wander or are forced into the middle ear along the Eustachian canal, and then is precipitated, with almost incredible rapidity and severity, a violent infection of the middle ear, antrum cells, and often even of the meninges and cerebellum.

The following case will illustrate: The patient was a young woman of frail physique, but in the best of health and with no history, antecedent or at the time, of any ear trouble. She had for several years been annoyed from time to time, by nasal stenosis, in consequence of hypertrophic rhinitis. There was present, both middle and posterior hypertrophy, more marked on the right side. At the suggestion of a specialist of distinction and experience, the latter removed the posterior thickening of the right side of the nose. Violent reaction with general septic infection followed this attempt, and after a few days it was evident that complications of the right ear had been added. Together we made every effort to arrest the progress, only to have

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

our fears realized, that an unusually severe otitis media had given way to acute empyema of the antrum and cells. On the twelfth day after the nasal operation, surgery, to meet every indication which might be disclosed, was practiced. Pus was found under the periosteum, the cortex was very vascular and succulent and even the outermost cells full of pus. When the antrum was reached a gush of pus occurred. Improvement in breathing and pulse was at once observed. The proportionately large amount of pus found here suggested to us at once, what was also discovered afterward through exposure of the tympanic attic, viz., perforation of the tegmen and a large extradural abscess.

Fearing that complete escape of pus and drainage could not be secured, the middle fossa, in a locality most favorable to meet the desired indication, was opened, and it was fortunate that this was done, for it enabled us to evacuate a large accumulation of pus, which along the first channel, would well-nigh have been impossible. The most complete drainage was thereby secured, and in spite of the general septic infection, the patient recovered.

A PRELIMINARY INVESTIGATION OF THE THEORY OF THE INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

BY ALBERT WOLDERT, M.D.
PHILADELPHIA.

(Concluded from Page 269.)

For some time past I have been studying the different species of mosquitoes collected in eastern and central Texas, eastern Pennsylvania, and the eastern coast of New Jersey. I learned that during the month of October the *Culex pungens* was the most common species which prevailed to the greatest extent in all of them. I have made sections of many of them and examined these microscopically. Probably 2000 sections have been made. The subject of entomology is a very important one in connection with this work, and in this department of science there is much room for improvement, such as the classification of mosquitoes.

NATURAL ORDER OF THE MOSQUITO.

The mosquito belongs to the natural order *Diptera*, sub-order *Nemocera*, and to the family *Culicidæ*. Two genera are most commonly known, namely, *Culex* and *Anopheles*. The word "mosquito" is derived from the Spanish and Portuguese *mosca* or the Latin *musca*, which means a gnat or fly. The name probably originated in the West Indies, where it is learned that the term "culex, mosquito" was first applied to a kind of gnat streaked with silvery white, the female members of which have a piercing and sucking proboscis and annoy man.

Mosquitoes are distinguished from *Chironomus*, which they resemble very much, from the fact that the former are provided with an elongated proboscis or biting apparatus, while in the *Chironomus* the proboscis is but poorly developed. The wing of the mosquito is covered with hair-like scales that often extend beyond the posterior margin. The *Chironomus* is often seen in swarms or clouds, which give rise to the impression that there is a deluge of mosquitoes in a certain locality. Some members of the family *Simuliidæ* are also called mosquitoes. All told, about 150 species of mosquitoes have been described. The natural food of this insect is probably the juice of plants, the sucking of blood being an *acquired taste*. They only forage for food within a short range of their natural habitat. How long the adult insect can live under the most favorable circumstances is not known. One writer says that the impregnated female may survive the winter, feeding in sheltered spots, such as barns, cellars and outhouses.

It is stated by authors on this subject that the eggs of the mosquito are deposited by the female in a delicate boat-shaped mass on the surface of the water. These are packed side by side with the smaller end uppermost, forming a concave mass that floats readily. They hatch within a few days, and within a period of from three to four weeks develop into the full-grown insect. Several broods are hatched each season, about 300 eggs being deposited. Frequently—but not always—the female dies after depositing the eggs. When the egg cell ruptures, the larval stage begins, and in the case of the *Culex pungens* or common mosquito the body of the larva becomes partly submerged and floats with head downward, but breathes through the pneumatic tube at the extremity of the tail. To these bodies the term "wigglers" or "wrigglers" is applied. The eggs of the *Culex pungens* may be deposited in buckets or pails around the house, and in stagnant water. This variety may be termed a "house mosquito." Not all mosquito larvæ are deposited in stagnant water, for the soil may also harbor them. It is said that this insect is found in the Rocky Mountains, where stagnant water is unknown. The male probably never bites man, owing to the non-development of the mouth parts. He may be readily distinguished from the female from the fact that the former is provided with antennæ which are broadly feathered—bearded—or plumose, while in the latter the antennæ are slender and only have a few lateral bristles. (see Fig. 1.). It has been stated that the male "rarely enters our dwellings and lives unnoticed in the woods," but I must dissent from this view.

GENUS ANOPHELES DISTINGUISHED FROM GENUS CULEX.

According to Ross, the larvæ of *Anopheles*, unlike those of *Culex*, do not swim with head downward, but lie flat on the surface, like sticks, due to absence of a breathing tube. The larvæ of *Anopheles* are not found in buckets of stagnant water around the house, in wells, cisterns, and drains, or in artificial collections of water, but are only found in *natural* ponds or puddles, such as persist after heavy rains. They have been found in puddles between rocks, in rice-fields and between the rows of growing grain. Fish devour the larvæ with avidity, hence they are seldom found in lakes or ponds where fish are present. The *Anopheles* is a distinctly rural mosquito. In searching for the adults, Ross usually found them around stables and cattle byres. The adult *Anopheles* may be distinguished from the *Culex* in that the former has spotted wings, the palpi are as long as the proboscis, and when the insect rests against the wall the body projects outward, while in the *Culex* the body hangs downward. In the *Anopheles* that I have seen, the legs are quite long and very much finer than in the *Culex*, and are not striped. It has been said that certain species of *Culex* have spotted wings. I can not speak for all species of the latter, but the following named species do not have spotted wings as the term implies in the case of the genus *Anopheles*: *Culex triseriatus*, *Culex impiger*, *Culex pungens*, *Culex stimulans*, *Culex posticus*, *Culex teniorhynchus*, *Culex fasciatus*, *Culex perturbans*. The following species of *Culex* have whitish transverse bands across the legs: *Culex teniorhynchus*, *Culex stimulans*, *Culex fasciatus* and *Culex excitans*.

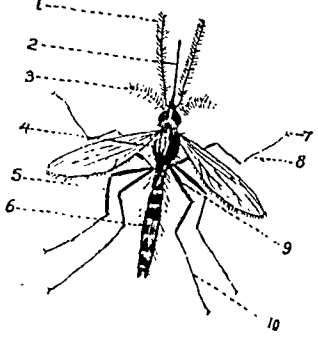

PLATE 1-MALE CULEX PUNGENS

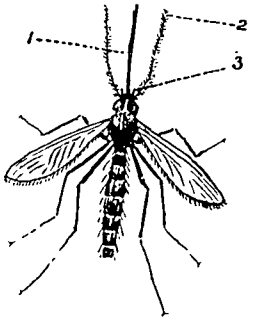

PLATE 2-FEMALE CULEX PUNGENS
DORSAL VIEW

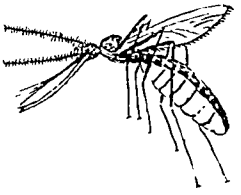

PLATE 3-FEMALE CULEX PUNGENS
SIDE VIEW

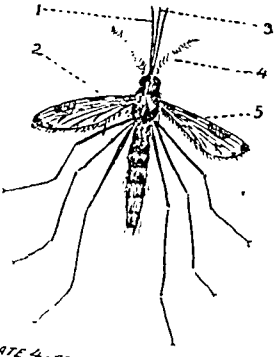

PLATE 4-FEMALE ANOPHELES QUADRIMACULATUS

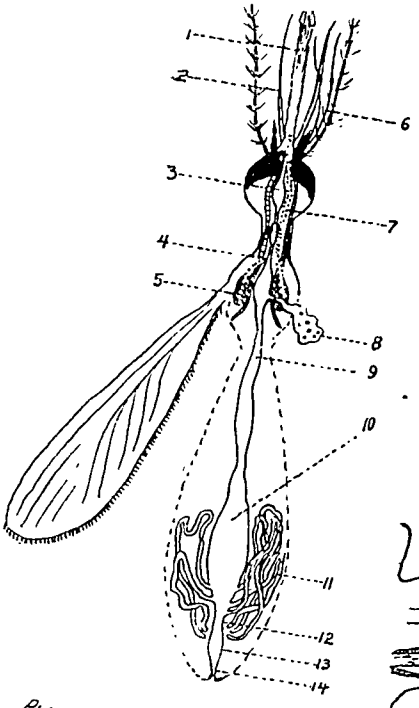

PLATE 5-DISSECTED MOSQUITO

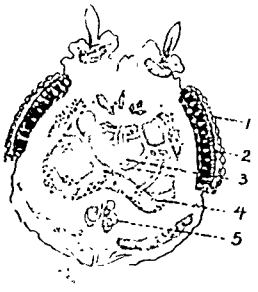

PLATE 6-CEPHALIC GANGLIA
(BRAIN OF MOSQUITO)

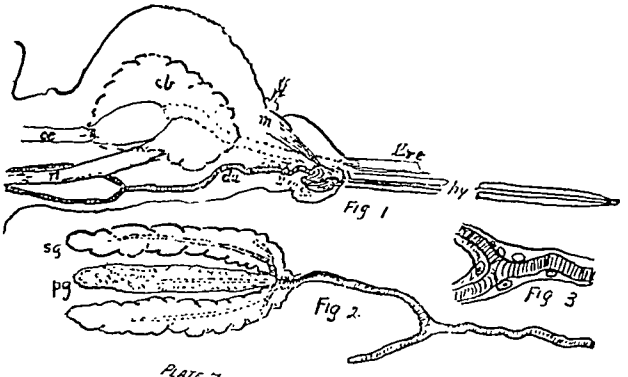

PLATE 7-VENOMO-SALIVORY GLAND OF MOSQUITO (MACLOSKIE)

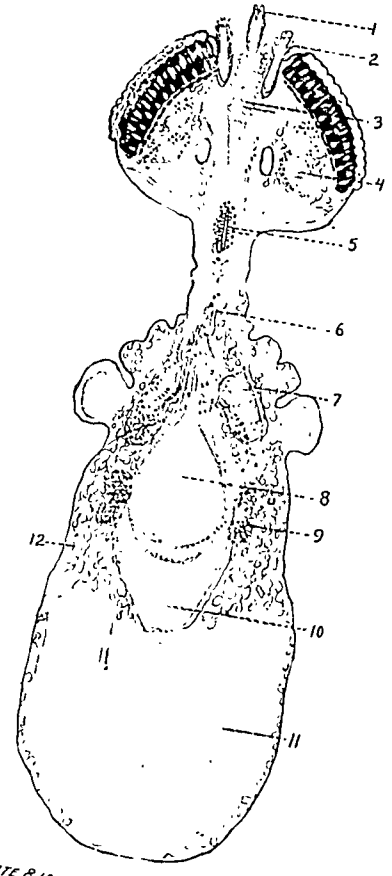

PLATE 8 LONGITUDINAL SECTION THROUGH DORSAL SURFACE OF MOSQUITO (CULEX PUNGENS)

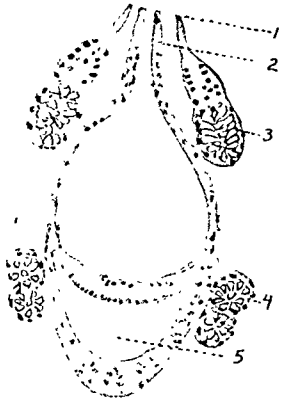

PLATE 9-PART OF PLATE 8
GREATLY MAGNIFIED

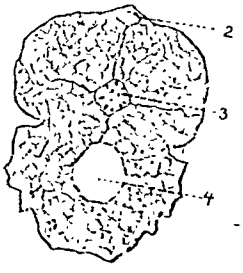

PLATE 10-TRANSVERSE SECTION THROUGH UPPER PORTION OF ABDOMEN OF MOSQUITO

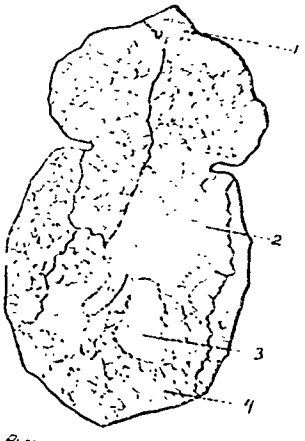

PLATE 11-TRANSVERSE SECTION THROUGH LOWER PORTION OF ABDOMEN AND STOMACH OF MOSQUITO

PLATE 12-TRANSVERSE SECTION THROUGH STOMACH OF MOSQUITO SAME AS PLATE 11
GREATLY MAGNIFIED

INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOS.--WOLDERT.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

TABLE OF GENERA OF CULICIDAE (WILLISTON).

1. Proboscis short, not longer than the head; metatarsi longer than the following joint: genus, *Corethra*. Proboscis much elongated, longer than the head and thorax together: See No. 2 of this classification.

2. Proboscis strongly curved, palpi of the male very long, of the female very short: genus *Megarhinus*. Proboscis straight: See No. 3 of this classification.

3. Palpi in both sexes, of equal length: See No. 4 of this classification. Palpi in the male long, short in the female: genus *Culex*.

4. Palpi longer than the antennæ: genus *Anopheles*. Palpi shorter than the antennæ: genus *Aedes*.

CHARACTERISTICS OF THE COMMON SPECIES OF MOSQUITOES.*

The most common species of mosquito found in the United States is the *Culex pungens*. It was the one found prevailing during October in the different sections of Texas, Pennsylvania and New Jersey, previously named. In my collection only one *Anopheles* has been caught. It was sent from central Texas—near the Brazos River—where a severe form of malarial fever was then prevailing. It belonged to the species *punctipennis* and was devoid of blood. Sections were made of it.

The following description may be made in regard to the *Culex pungens* or common—domestic—mosquito: This is of medium size, rather dark-brown body, with yellowish pubescens or fine hairs on the thorax; the legs are dark reddish, quite long; the proboscis slightly curved; and the abdomen very dark-brownish, with margins of segments whitish. The dorsal surface of the abdomen contains several circular, light or yellowish bands. The palpi in both male and female are rudimentary. (See Plates Nos. 1-3.)

Another common species of *Culex* is the *Culex triseriatus*. It is found mostly along the coast country, and is especially severe in New Jersey. It is of medium size; the body brownish in color, and on each side of the abdomen or tergum are seen several whitish triangular spots at the base of each segment; on each side of the thorax—pleura—two spots of whitish hairs are seen; the legs are very black in color.

Culex fasciatus is another common species. On microscopic appearance it might be termed a "black mosquito." The legs are striped transversely, with whitish bands. It is of medium size, about the same as the *pipiens* of Europe. Across the proboscis three whitish bands are seen. The thorax is very black and contains a row of white spots along the dorsal line. It is found mostly in the tropics and along the coast country. Besides the above-named species, the following are also common: *Culex Consobrinus, Culex impiger, Culex stimulans* and *Culex teniorhynchus*. The *Psorophora ciliata* and *Megarhina rutila* are perhaps the largest mosquitoes.

GENERAL CHARACTERISTICS OF ANOPHELES.

I can only speak of *Anopheles quadrimaculatus* and *Anopheles punctipennis*. The three most distinguishing characteristics of these two species are: Presence of dark or brownish spots on the wings, due to a thicker growth of fine hairs in these regions; palpi as long as the proboscis; legs very long, delicate and of a solid dark-brown color. The body in both species is of a light brown color. According to Loew (1863) the *Anopheles claviger*—or *maculipennis*—occurs in North America. It must be rare. Mr. C. W. Johnson, curator of the Wagner Free Institute of Science, Philadelphia, has not been able to collect a single specimen. There is no specimen of this species at the Academy of Natural Sciences of Philadelphia, American Museum of Natural History of New York, and none obtained in North America in the collection of the National Museum at Washington. I have looked up the original reference of Loew[3]. In an address before the Society of Koenigsburg Naturalists, delivered in 1861, he said: "The comparison of the North American diptera with the European ones was rendered possible to me on a very extended scale through the study of the conclusions of Baron Osten Sacken. The comparison showed a surprisingly large number of species common to both continents. As such species common to both countries, I can name with certainty and from personal investigation the following: *Anopheles claviger* (Meigen); *Anopheles quadrimaculatus* (Say), or, according to Loew, termed *Anopheles pictus; Anopheles nigripes* (Staeg, etc.)."

The most common species of *Anopheles* found in North America are: *Anopheles punctipennis*. The *Anopheles quadrimaculatus* and *Anopheles punctipennis*. The *Anopheles quadrimaculatus* has been found in eight different localities of the United States, as follows: Texas, Florida, Maryland, District of Columbia, Illinois, Minnesota, New Hampshire and New York. The *Anopheles punctipennis* has been found in nine different sections of the United States, to-wit: Texas, District of Columbia, Maryland, Vermont, Massachusetts, Pennsylvania, New York, New Mexico and Illinois. Besides the above, the *Anopheles crucidus* and *Anopheles ferruginosus* have also been found in this country.

THE ANOPHELES QUADRIMACULATUS.

Plate 4 may be thus described: Body about the size or perhaps a little more slender than *Culex pungens*; body and wings dark brownish in color; four maculated brownish or dark spots on each wing, due to a thicker growth of short bristles or hairs in these areas. Three of these spots are found extending along one of the veins near the costal vein, while one is somewhat posterior to the last two spots (see Plate 4); legs very long and slender and of a solid dark-brown color somewhat lighter at the tip of the femora and tibia.

The *Anopheles punctipennis* is about the same size as the *quadrimaculatus*, but of a somewhat lighter brownish color than that of the latter. This species also has several dark or brownish spots on each wing, but these are differently distributed from those seen in the *quadrimaculatus*. In the *A. punctipennis* two of the spots are distributed along the costal vein, while there are several smaller spots irregularly placed posterior to these two larger ones; the legs are about the same length, size and color as in the latter species.

Mr. C. W. Johnson informs me that while on a collecting trip along the St. Johns River, Florida, he was severely bitten one night by the *Anopheles quadrimaculatus*. On his return to Philadelphia, two weeks later, malarial fever developed.

The *Anopheles claviger*, from the imperfect descriptions that have been given, seems to present the same general characteristics of the *quadrimaculatus* and *punctipennis*, but the dark or brownish spots on the wings are said to be four in number and distributed along the anterior nervure.

PERSONAL COLLECTION OF MOSQUITOES.

The following data regarding my collection of mos-

*Plates Nos. 2 and 3.

3. Silliman's Journal of Science, vol. xxxvii, No. 37, p. 317, new series.

quitoes may be detailed: All that were caught in sleeping apartments, outhouses and cellars in Philadelphia during the last two weeks of September and October were the *Culex pungens.* The females predominated probably in the ratio of six of that sex to one male. Toward the latter part of October the males seemed to be more numerous. Mosquitoes caught under the bar of patients in eastern Texas, suffering from malarial fever, in the latter part of September, showed two males and five females; six were *Culex pungens* and one *Culex triseriatus.* Mosquitoes caught in east Texas, along a small ravine, at about the same date, showed ten females and two males, all being *Culex pungens.* Another lot gathered in the same territory, from wells, sleeping rooms, barns and outhouses, were all *Culex pungens.* Another collection gathered about one mile distant from this locality, but this time from the edge of an artificial lake fed by a spring, were of the same species. Specimens from central Texas, collected during the first week of October, exhibited nine mosquitoes; seven were female *pungens* and two male *fasciatus.* Another collection from the same locality, collected about the end of October, showed about twenty female *Culex pungens,* half a dozen males; and in addition about twenty specimens of *chironomus.* In this collection there was one female *Anopheles punctipennis,* which was devoid of blood. Many of the culex were filled with blood. Two mosquitoes, caught in southern Texas, from a sleeping apartment—first week of November—proved to be one male *fasciatus* and one female *pungens.* About one dozen specimens of mosquitoes from the eastern coast of New Jersey collected in the last week of October all proved to be female *Culex pungens.* Some of the latter were caught in the cellar of an old barn located about one hundred yards from a fresh water pond which never dries up; while the others were caught about one-eighth of a mile distant and on a bar hung in a sleeping room.

TO KEEP MOSQUITOES ALIVE.

In order to study the sporozooids—germinal threads—of the malarial parasite in the tissues of the mosquito it is essential that the insect should be kept alive for a number of days after the blood has been taken into its stomach. Creagh has stated that they thrive well on a mixture of equal parts of brown sugar and dry sherry wine, which should be renewed every two or three days. Bancroft has recommended that a banana—with rind partly removed—be suspended near them and renewed every four or five days. Following Bancroft's recommendation I placed a mosquito in a wide mouth bottle and covered it over with a thin gauze. In the bottle, about every two or three days was placed a small slice of banana, and the gauze was daily sprinkled with water. The mosquito died on the fifteenth day. Of another collection treated similarly one lived from October 28 to December 16 (or 50 days): while another one of the same collection lived until December 26 (or 60 days). The insect may frequently be seen to attack the fruit immediately upon its introduction.

THE MOUTH PARTS OF THE MOSQUITO.*

The proboscis, beak or oral armature, consists of an epipharynx—or labrum—two mandibles for piercing tissues, two maxillæ—or jaws—and a hypopharynx. These mouth parts, when not in use, are enclosed within a scale-covered sheath called the labrum. When placed together the mouth parts form a tube through which the insect sucks its food. Morphologically in man the epipharynx corresponds to the hard palate—pharynx—while the hypopharynx corresponds to the tongue, or floor of the mouth. The hypopharynx was so named by Savigny in 1816. Evidently it is an error to speak of the mosquito as "stinging" a person.

The mastax is a term applied to any masticating portion of the alimentary tract posterior to the mouth. The mosquito *Culex pungens* seems to be provided with such an organ. At least an aperture is seen forming the roof of the dilated portion of the esophagus below the pharynx (see Plate 8, Fig. 5), with radiating lines from the inner surfaces. This aperture is lined with yellow chitin, as is the outer integument—exoskeleton—of the mosquito and other surfaces derived from the ectodermal layer.

The pharynx (Plate 5, Fig. 3) in the mosquito is located near the under surface of the insect's head, and in the median line. It has an oblong or oval shape, slightly yellowish in color and lined with chitin.

The esophagus of the mosquito (see Plate 5, Fig. 9), soon after it is given off from the pharynx, dilates into a kind of pouch and then passes downward into the dilated portion of the alimentary tract, lying within the thorax. Below this point it forms a sinuous canal until the widely dilated pouch is formed lying within the abdomen (so-called stomach). The lumen of the esophagus, after entering the abdomen, has a star shape and contains granular material (Plate 10, Fig. 3).

THE VENOMO-SALIVARY GLAND.*

It seems probable that the venomo- or veneno-salivary gland in the mosquito varies somewhat in shape according to the different genera, although my experience in this matter is not sufficient to make an absolute statement, and such is subject to correction.

The venomo-salivary glands are two in number, one on each side of the insect's neck in the anterio-inferior portion of the prothorax.

Prof. G. Macloskie of Princeton University was probably the first to accurately describe this gland of the mosquito. If there be previous writers, their work has not fallen into my hands. Macloskie's specimen (see Plate 7) was dissected by Dumas Watkins, in 1888. It is thus described by the former writer: "Working backwards from the hypopharynx I found that the duct is not readily identified with a low-power microscope. It has the usual chitinous lining surrounded by the nucleated hypodermis. It is distinguished from the trachea by the comparative smallness and constancy of its diameter, and by the absence of ramifications. It runs back in the lower part of the head beneath the nerve commissure for two-fifths of a millimeter. In the throat it bifurcates into two branches, being each as long as the individual segment, and running on the right and left of the nerve cord into the prothorax, where they terminate in glands of a characteristic structure.

"The glands are in two sets, one on each side of the insect's neck in the antero-inferior region of the prothorax. Each set consists of three glands resembling in structure, but not proportionately so long as the single salivary gland on each side of the prothorax of the house fly. The third gland, that occupying the center of each set, is different, being evenly granular, and staining more deeply than the others. Its function is without doubt the secretion of the poison. Each gland is about one-third of a millimeter long and one twenty-fifth of a millimeter broad. The three are arranged like the leaves of a trefoil and each is traversed throughout by a fine ductule, the three ductlets uniting to form a common duct, which is like a pedicle of the trefoil and is one of the branches of the bifurcated venomo-salivary

*Plates Nos. 3, 5.

*Plates 7 and 8.

duct. Thus there are six glands, three on each side, two of them poisonous and four salivary, their secretion diluting the poison. I see muscles apparently inserted in the framework of this reservoir (Plate 7 *m*); but Dimmock seems to think that the hypopharynx is not furnished with muscles. However this may be, the pressure exerted on it by the surrounding parts when the mosquito inserts its piercing apparatus into the flesh or through the epidermis of a plant, being sufficient to propel the poison through the tubular axis of the hypopharynx into the wound, the reservoir must be furnished with a valve to prevent the reflux of the secretion. The poison is diluted by the secretion of the salivary lobes and the two efferent ducts, one from each set of glands, carry forward and commingle the venomo-salivary products in the main duct, and the stream is thus carried by the main duct to the reservoir at the base of the hypopharynx [tongue]." These observations were made on the *teniorhynchus* and a species of the allied genus *Anopheles*.

In my stained section (Plate 8, Fig. 7, and Plate 9, Fig. 3), it will be observed that the venomo-salivary glands of the *Culex pungens* have a different shape from that described by Macloskie, who worked with another species and another genus of mosquito. In his specimen the gland is described as being of a trefoil shape, while in Plates 8 and 9 the gland would appear to be pear-shaped, somewhat constricted in the middle. There appears not to be three lobes on each side of the insect's neck, but only one. The capsule of the gland takes a deep blue stain and contains scattered oval or round and dark nuclei. Within each gland the mucous spaces appear so arranged that the fluid is discharged into a depression in the center, and thence onward through ducts, one from each gland, they unite in front of the esophagus to form the main duct, which communicates with the mouth parts (hypopharynx). In certain areas the mucous spaces appear slightly granular, but are generally clear or glistening in aspect. Below the lobe of each gland, on either side of the esophagus, are seen (Plates 8 and 9) certain round glandular cells (gizzard) having a capsule similar to that of the salivary glands and with similar mucous spaces. They are seemingly joined to the outer wall of the esophagus, but I have been unable to trace any communication between them and the esophagus. Whether the shape or structure of the venomo-salivary gland in this insect could have any influence in storing up spores of micro-organisms I do not know. Reaumur, in the last century, believed that the function of the fluid from the venomo-salivary glands was to coagulate proteids and to promote the process of suction. It is known that the bite of the mosquito does not give rise to hemorrhage.

THE CROP.*

In dissecting the mosquito, especially in the area adjacent to the upper portion of the prothorax or pleura, there frequently comes into view a clear and glistening object composed of a delicate membrane containing air bubbles inspired during the brief interval preceding its death. Following up this body it is found to be attached to an enlarged portion of the esophagus in the thorax. This is the crop, an organ which acts as a reservoir for food. Before its relative position is disturbed, this pouch may sometimes be observed lying partly in the celom or abdominal cavity, and compressed against the anterior wall of the abdomen. In certain instances, on being drawn outward a rhythmic movement may be observed, probably due to the insertion of a small and oval-shaped muscle inserted in the neighborhood of its union with the esophagus. In one dissection this movement of the muscle was observed (low power lens), even after all the surrounding tissues including the head and neck had been removed. With each contraction of this small oval muscle a wavy undulation would be communicated to the esophagus. At intervals of about every ten or fifteen seconds the crop would contract visibly and the outer end would draw upward toward its attachment to the esophagus; finally this pouch began to make a series of quick jerks which lasted a considerable period. On detaching the esophagus the muscle still contracted, and on being dissected out was found to be attached to the tissues lying in the neighborhood of the venomo-salivary glands.

*Plate 5, Fig. 8.

THE STOMACH OF THE MOSQUITO.*

The stomach of an insect is a term applied to a dilated glandular portion of the alimentary canal usually lying within the thorax. That which has been described as the stomach of the mosquito lies wholly within the abdomen. The esophagus, soon after it passes a point corresponding to the metanotum, begins to undergo a gradual dilatation into an oblong pouch forming the stomach. As in the case of the esophagus, the stomach is held in position by four strands of connective tissue extending from the outer surfaces in four directions and running outward through the fatty tissue toward the abdominal wall (Plate 10, Fig. 3). When the stomach is distended with blood, it occupies the whole abdominal area, and the outer abdominal wall, together with a very small amount of fatty tissue, alone remains as a protection. In this condition the Malpighian tubes are pressed downward in the median line, where they are observed to lie in bundles. In one of my sections, made through the central abdominal region—and through the stomach—the blood was found to be coagulated in a thick layer around the inner surface of the stomach, and remained a deep brownish color, while in the central cavity the degenerated products—hemoglobin, etc.—of the red cells were seen, many of which contained dark granules. In this area a few red corpuscles appeared to be normal and stained a faint bluish tint. This picture doubtless represents the products of digestion in this insect.

HISTOLOGIC APPEARANCE OF MOSQUITO'S STOMACH.*

Manson describes the histologic appearance of the stomach of the mosquito as follows: 1, an outer layer composed of ramifications of air vesicles of this insect; 2, two layers of muscular fibers, one longitudinal and the other circular; these cross each other at right angles, producing a sort of rectangular pattern; 3, beneath this a sort of structureless membrane, the mucous coat, which does not stain well—epithelial layer composed of several strata of cells.

The following description applies to the stained section (Plate 11, Fig. 2, and Plate 12) here presented: 1, an outer wall composed of a thin tunic of connective tissue containing a few deeply stained nuclei; 2, two rows of muscle cells with round nuclei; 3, a single layer of columnar epithelial cells with elliptic or rod-shaped nuclei; 4, an inner mucous (chitin) coat which does not stain well. In the third layer there *appears* to be more than a single layer of columnal epithelial cells, which is probably due to the folds or rugæ of the stomach.

THE MALPIGHIAN TUBES.*

The Malpighian tubes of the mosquito—*Culex pun-*

*Plates 11 and 12. *Plate 5, Fig. 11.

gens—are, according to my dissections, five in number. They have their origin in that portion of the stomach which joins the small intestine, and after being given off from this portion of the alimentary canal, curl upward, outward and then downward, forming various loops which are closely woven together, and finally terminate below in the region of the small intestine, in small canals the distal ends of which are closed. The Malpighian tubes were formerly regarded as hepatic or liver tubules, but Lowne thinks they go to form a hepato-pancreas. By modern writers (Conklin and others) they are considered excretory organs—kidney tubules. In some instances their proximal extremity has a dark appearance due to the contained material. On cross section each tube is made up of an outer or connective tissue layer containing round, large and deeply staining nuclei, and an inner basement membrane which surrounds large cells—drain-pipe cells.

THE CIRCULATORY AND RESPIRATORY SYSTEMS OF THE MOSQUITO.

Insects have no system of arteries or veins, nor closed system of blood-vessels, and the blood flows freely among all the tissues. The circulatory system of insects is of a very primitive character, consisting of a dorsal vein open at both ends and divided into a variable number of cavities. It is situated on the dorsal surface, and in the median line of the thorax and abdomen. The dorsal vein performs the function of the heart in higher forms of life. With each pulsation of the dorsal vein, which begins at the posterior end, the blood is propelled forward into the head, and after passing backward freely among the muscles and other tissues, finally enters the body cavity—celom—and appendages. Within the abdomen the oxygenated blood circulates in close relationship with the air tubes, and in this way it becomes oxygenated while CO_2 is eliminated. No doubt there are smaller vessels by which the blood is again returned to the dorsal vein. The blood of the mosquito is colorless. I have not learned whether the circulatory system is the same in all varieties of mosquitoes, and do not know why the sporozooids of malarial fever should become stored up in one species of mosquito and not in another species.

The respiratory system of the mosquito consists for the most part of stigmata—tracheæ, spiracles or breathing tubes—the two larger of which pass downward from the mouth parts on either side of the anterior surface of the neck (Plate 5, Fig. 4), and probably have their external opening in the pleura or thorax (the forebody consisting of prothorax, mesothorax and metathorax). Ramifications of the air tubes are given off in all directions in the thorax. Spiracles are also present in the abdomen, and pass upward and communicate with the external air by oval shaped orifices, protected by muscles, placed beneath the dorsal segments or tergites.

The eggs of the mosquito are comparatively large in size, and of a round shape. They are generally found in masses and are held in position by a thin membrane almost transparent in color. They stain a deep purple with Delafield's hematoxylin solution. In certain instances karyokinetic figures were observed.

THE CELOM OR BODY CAVITY.*

The celom or body cavity of the mosquito is comparatively large. It extends from the upper limit of the esophagus above to the point where the Malpighian tubes have their origin in the lower portion of the stomach. Within the abdominal area it probably has no definite shape, depending on the amount of distention of the stomach. It is walled off from the fatty tissue about its edges by a thin but seemingly elastic membrane, from which strands of connective tissue radiate inward to become attached to the stomach. When the stomach is empty it appears to be suspended near the center of this cavity by means of these strands, and the tissue from the periphery presses inward, thus in part obliterating the celom. Within the thorax the celom is quite large. Plate 8, Fig. 8 represents a somewhat longitudinal section of the tissues about the celom.

NERVOUS SYSTEM OF INSECTS.

It has been said that insects have no true brain as the meaning implies in the case of man. Plate No. 6 (see plate) evidently shows that the mosquito possesses a cerebrum and cerebellum. Some insects seem devoid of sensation. For the most part the nervous system is made up of ganglia, the largest collection lying within the head parts. From the cephalic ganglia or brain is given off a double nerve-cord extending the entire length of the insect. From the ganglia or different segments, nerve-fibers are given off in all directions. In the higher insects the thoracic ganglia are well developed and control the vital functions.

METHOD OF DISSECTING A MOSQUITO.

There are no guides on this subject. The routine method which I followed in many dissections may be thus described: Only the fresh specimen was used. The apparatus and instruments consisted of a Zeiss dissecting microscope; a pair of forceps with extra-fine points; two extra-fine needles placed in wooden handles; normal salt solution; killing fluid, such as absolute alcohol, chloroform or hot 50 per cent. alcohol. It was found best to leave the head and neck attached to the body throughout the dissection. Several hours were consumed in each dissection. The mosquito, after being killed, was placed on the glass stage of the dissecting microscope, and a few drops of normal saline solution added, after which the wings and legs were removed close to the insect's body. To dissect out the venomo-salivary gland see Macloskie's directions. A high-power lens should be used in this region. My dissections of these glands have not been entirely satisfactory. To find the esophagus, crop, stomach and Malpighian tubes is a comparatively easy task, patience only being required. Dissections should be made from above downward.

In removing the pharynx (Plate 5, Fig. 3) an incision was made in the median line of the head, cutting downward and from time to time adding normal saline solution in order to render the field clear. In searching for the crop and esophagus, the insect was caught by the remnants of the femora and the dissection was begun by laying open the upper portion of the prothorax on the dorsal surface, carrying the teasing process downward in the median line. Each individual fragment of tissue was removed, care being exercised not to exert too much force in its removal. From time to time normal saline solution was added to make the field clear of fatty particles, with which the insect was abundantly supplied. Working along the dorsal surface to a sufficient depth, a few strokes were made on the anterior surface of the thorax, when the clear and glistening crop would come into view, being recognized by its oblong or pear shape, glistening color and contained air bubbles. Following up its duct the esophagus was easily reached, being recognized by its tubular appearance, brownish color and elasticity. The esophagus was then followed downward, cutting through the scutellum. (Here some patience was required in order to prevent the head and

*Plates 5, 9 and 11.

thorax from becoming detached. As a precaution it was found best to keep the abdomen pushed well up toward the thorax so that overstretching would be prevented.) The abdominal wall was then nipped in a number of places, exercising care so as not to injure the Malpighian tubes, when the fatty whitish particles would escape in large quantity.

To remove the stomach and Malpighian tubes, the esophagus was followed downward by cutting through the abdominal wall and gently teasing the fragments away. From time to time, if the two outer edges of the abdominal wall were placed on the stretch, the stomach and Malpighian tubes could be recognized, the former by its oblong shape, the latter by their loops. Normal saline solution was frequently added, and by gentle teasing all the fatty particles were removed, leaving the other part enclosed within its somewhat elastic abdominal wall. To get a complete dissection, usually three mosquitoes were necessary; one for the pharynx, one for the esophagus, crop and stomach, and one for the Malpighian tubes and rectum.

Ross imbeds in celloidin. These sections were imbedded in paraffin, cut with a Minot microtome, and stained with Delafield's hematoxylin solution.

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NOTE.—After this paper had been compiled an interesting article by W. N. Berkeley appeared in the *New York Medical Record* for December 23, 1899, entitled "An Account of Some Personal Work on the Mosquito-Malaria Theory with Remarks upon the Present Status of the Investigation."

BIBLIOGRAPHY.

In the preparation of Part I of this article (see JOURNAL) I have kept close to the words of Ross, Manson, Grassi and others, as printed in the *British Medical Journal* and London *Lancet*, and various abstracts of medical journals in this country, more especially to the article of W. B. James in the *N. Y. Medical Journal* for June 24, 1899. I regret that I am not more familiar with the extensive work of Koch in regard to this question. Some knowledge of the proper nomenclature of the younger forms of the sporozoa has been derived from the article by T. B. Futcher in the *Am. Jour. of The Med. Sci.*, September, 1899.

For Part II. a large list of books on entomology was consulted; but for the most part the article consists of original work, there being no guides on this subject. All the plates are from original drawings, except that of Macloskie.

NOTE.—Without the many courtesies extended me by Prof. E. G. Conklin of the Biologic Department of the University of Pennsylvania, this work could not have been done. My sincere thanks are also tendered to Mr. C. W. Johnson, curator of the Wagner Free Institute of Science, for his aid in classifying the mosquitoes and for correcting part of the manuscript. To the following named I am also under many obligations for favors shown: Drs. Alfred Stengel, T. C. Ely, W. L. Pyle, and A. O. J. Kelly, of Philadelphia; W. J. Condon, of New Jersey, and J. H. Sears, R. E. B. Bledsoe and Mr. J. W. Smiley, of Texas.

EXPLANATION OF PLATES.

Plate 1: Fig. 1, palpi. Fig. 2, proboscis. Fig. 3, antennæ. Fig. 4, thorax. Fig. 5, tibia. Fig. 6, abdomen. Fig. 7, foot claw. Fig. 8, front tarsus. Fig. 9, femora. Fig 10, hind tarsus.

Plate 2: Fig. 1, proboscis. Fig. 2, antennæ. Fig. 3, palpi.

Plate 4: Fig. 1, palpi. Fig. 2, costa, or costal vein. Fig. 3, proboscis. Fig. 4, antennæ. Fig. 5, first longitudinal vein.

Plate 5: Fig. 1, labium. Fig. 2, mandible. Fig. 3, pharynx. Fig. 4, spiracle. Fig. 5, venomo-salivary gland. Fig. 6, maxilla. Fig. 7, duct of venomo-salivary gland. Fig. 8, crop. Fig. 9, esophagus at a point corresponding to the scutellum or projecting hard part of the thorax (the metanotum is the space just below the scutellum, which separates the thorax and abdomen). Fig. 10, stomach. Fig. 11, Malpighian tubes. Fig. 12, small intestine. Fig. 13 colon. Fig. 14, rectum.

Plate 6: Fig. 1, simple eye of mosquito. Fig. 2, compound eye. Fig. 3, central portion of cephalic ganglia or cerebrum of mosquito. Fig. 4, ganglion cells. Fig. 5, cerebellum.

Plate 7: Anatomy of venomo-salivary gland and surrounding parts, Macloskie's dissection (*American Naturalist*, October, 1888). Fig. 1, *du*, venomo-salivary duct with its insertion in *hy*—hypopharynx; *cb*, cerebrum—below this is the cerebellum and the pumping enlargement of *oe*, esophagus: *lrc*, base of labrum-epipharynx; *m*, muscle; *n*, nerve commissure—other parts removed. Fig. 2 is the venomo-salivary duct showing its bifurcation, and the three glands on one of its branches: *pg*, poisonous gland; *sg*, upper of the two salivary glands. Fig. 3 is the bifurcation of the duct, with its nucleated hypodermis.

Plate 8: Fig. 1, longitudinal section through base of labium. Fig. 2, section through palpi. Fig. 3, roof of pharynx. Fig. 4, part of cephalic ganglia. Fig. 5, mastax. Fig. 6, longitudinal section through upper portion of esophagus. Fig. 7, venomo-salivary gland. Fig. 8, celom or body cavity anterior to esophagus. Fig. 9, glandular bodies, probably gizzard. Fig. 10, longitudinal section through dorsal coat of esophagus. Fig. 11, scales of dorsal coat of thorax.

Plate 9: Part of Plate 8, greatly magnified. Fig. 1, duct of venomo-salivary gland. Fig. 2, longitudinal section through esophagus. Fig. 3, venomo-salivary gland. Fig. 4, glandular bodies—gizzard (?). Fig. 5, celom or body cavity.

Plate 10: Fig. 1, adipose tissue. Fig. 2, dorsal vein. Fig. 3, esophagus. Fig. 4, celom.

Plate 11: Fig. 1, dorsal vein. Fig. 2, transverse section through so-called stomach, showing arrangement of columnar epithelial cells with elliptic nuclei: owing to the folds of stomach it appears that more than a single row of these cells are present. Fig. 3, celom. Fig. 4, adipose tissue.

Plate 12: Part of Plate 11, greatly magnified; in this section the double row of muscle cells is near the periphery, and toward the cavity of stomach the columnar epithelial cells are depicted. Fig. 1, nuclei of muscle cell. Fig. 2, elliptic nuclei of columnar epithelial cells. Fig. 3, longitudinal section through a loop of a Malpighian tubule showing large round nuclei. The lumen of the tubule is also shown.

CLINICAL AND PATHOLOGIC NOTES ON SYMPATHETIC OPHTHALMIA.*

BY H. GIFFORD, M.D.

OMAHA, NEB.

Of the six cases of sympathetic ophthalmia which I have had the opportunity to observe in progress, only three have had features unusual enough to warrant my giving their histories.

CASE 1.—F. W., aged 27, came to me Feb. 6, 1896, stating that while at work in a machine-shop, that morning, he was struck in the left eye by a piece of steel. I found the right eye normal, with vision 20/20 +; the left eye had a very small perforating wound of the cornea and lens, with the latter so opaque as to entirely obscure the fundus. Vision was equal to fingers at two feet. As there was nothing to indicate the location of the piece of steel, and the giant magnet produced no effect, it was decided to wait until the lens became entirely opaque and then extract, with the hope of being able to see the fundus. The extraction was done after about ten days, through an incision in the upper limbus. So much lens matter remained behind, however, and the process of absorption was so slow, that no view was ever obtained of the fundus. A moderate reaction followed this operation, but as the congestion was subsiding and the light sense and projection of the eye were first-class, the man was allowed to go to his home in a neighboring town, returning every two or three days for observation. On March 16 the right eye was normal in every respect; the vision, 20/15. The next afternoon, without any warning in the way of pain or irritation, he noticed that the sight of his good eye was a little foggy. He came to me on the morning of the 18th, and I found the right eye to have a very slight ciliary injection, very fine opacities, visible only with transmitted light and + 20 D., on the anterior surface of the lens; the optic disc slightly hyperemic; and a small patch of faint whitish exudate in the retina close to the temporal side of the nerve, near the horizontal meridian. There was also a small patch of exudate at the inner margin of the disc. Vision =—20/30.

Nothing unusual had occurred in the injured eye, where congestion had been slowly but steadily decreasing with good light sense and projection. The eye was at once enucleated, but in spite of this—mercurial inunctions and atropin, to which the pupils responded promptly at first—the inflammation continued to in-

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crease slowly. The aqueous became so turbid and deposits on the lens so dense that no careful examination of the fundus could be made after the first day; numerous peripheral synechiæ developed, and the vision, within a week, was reduced to fingers at 5 to 6 feet. Then as the eye was steadily getting worse, the inunctions were stopped and 150 grains of salicylate given every day for three days. After this there was no change for nearly a week, whereupon the salicylate was renewed, 150 grains being given on four or five days in each week with hot applications. An improvement now set in and continued steadily until, on April 12, vision equalled 18/200. The salicylate was now stopped for several days and less atropin used, but the inflammation got decidedly worse, improving again when the salicylate was recommenced. On April 22 the vision was 20/50, and continued to improve under the same treatment until, on June 6, 1896, it was + 20/20 with the refraction corrected; and this vision has been maintained up to the present time without any relapse of the inflammation. As the inflammation decreased, the number of days in the week on which the large doses of salicylate were given was decreased; but 150 grains were taken on at least one day in each week for several weeks after the last signs of active inflammation had disappeared. On May 4, 1896, when this patient's vitreous had cleared up sufficiently to allow the fundus to be seen, a patch of retinochoroidal exudate with a small retinal hemorrhage could be seen at the nasal side of the nerve, with some new vessels in the retina, the nerve being blurred at its inner margin. Near the equator, down and out, there were a number of small, roundish, well-defined foci of choroidal atrophy, with slight rings of pigment; and other round whitish areas appearing like exudate in the retina. As the case progressed the exudate near the nerve cleared up entirely, leaving only the roundish patches of choroidal atrophy and some slight deposits on the anterior capsule to indicate the great danger through which the eye had passed.

CASE 2.—A. S., a boy of 17 years, on April 6, 1896, while trying to capture a wounded sand-hill crane, was pecked in the right eye. When seen by me on the evening of the next day, there was a large wound of the inner limbus, filled with shreds of iris and choroid, with the anterior chamber filled with blood. The chemosis was so extreme that the wound could not be examined well, and as there were strong indications of beginning panophthalmitis, the eye was simply cleansed and bandaged. The next day, under chloroform, the shreds of iris and choroid were cleared away, the bandage was renewed and full doses of salicylate were given. The improvement was quite rapid, the chemosis disappearing, the congestion lessening and the blood in the anterior chamber clearing up; so by April 22 it could be seen that the iris was nearly or completely missing; vision then being 10/200; vitreous opacities preventing a clear view of the fundus. A day or two after this he went out, got wet and caught cold. At this the eye became very much worse, the vision decreasing to fingers at six inches; with increased congestion and turbid aqueous. On April 30 the vision of the left eye, which had not been previously tested, was found to be 20/30, a little minus, and there was a very faint redness of the conjunctiva or episcleral tissue. This congestion was not a deep ciliary congestion, and as the eye was objectively normal in every other respect I unfortunately waited until the next day, when the patient for the first time noticed that his vision was a little cloudy, though the test showed the same vision as the day before; but the diffused congestion was more pronounced and a strong glass showed fine deposits on the anterior surface of the lens—not on Descemet's membrane—the nerve was perhaps a little hyperemic, but nothing decidedly abnormal could be seen in the fundus. The boy said that the night before he had severe headache. The right eye was now enucleated, and atropin and full doses of salicylate given. The membrane in the center of the pupilary space thickened, so that on May 4 the vision was only 6/200. There was considerable pain at night in the front and back of the head. May 6, 150 grains of salicylate a day having been given, the congestion was somewhat less, but soon after it became worse and the pupil slowly got smaller in spite of atropin and hot applications. This increase in the inflammation continued until about May 16, the vision being reduced to counting fingers at 1 to 2 feet. For a day or two before this the ordinary hot applications had made the eye feel worse, so flaxseed poultices were used, changed every few minutes for an hour at a time three times a day. At the same time the dose of salicylate was increased to 180 grains in the twenty-four hours. This produced a prompt and decided improvement, which continued steadily until May 28 when, after going without the salicylate for three days, taking pilocarpin sweats instead, the eye became painful and congestion again increased, whereupon the large dose of salicylate was used again on three or four days in each week and the inflammation gradually decreased until, on June 17, the eye was free from inflammation externally, vision was 8/200, a large opacity in the vitreous preventing a view of the fundus. He left the hospital in July, with the eye quiet and vision 20/70, the vitreous being still quite turbid. He has had no return of the inflammation, but when seen again after nearly a year, it was found that the lens had become quite opaque and the vision was reduced to counting fingers at 6 to 8 feet He was last seen on April 18, 1899, when the opacity of the lens was found to have increased slightly, but he could still find his way about readily; the pupil was about 6 mm. in diameter, its edges firmly adherent to the lens. An attempted iridectomy removed only the anterior layers of the segment of iris seized. It is quite possible that he may still have his vision considerably improved.

CASE 3.—Mrs. E. E., aged 59, came to me May 13, 1898, with immature cataracts. The right lens was needled slightly, this being followed by considerable swelling of the lens, the upper part of the iris being pushed forward so that when the lens was extracted, the incision button-holed the iris, leaving fragments which were hard to remove completely from the angles of the wound. A very small one of these healed in at the inner angle, but when she left the city, on June 17, with vision 20/50, this seemed to be entirely covered with conjunctival epithelium, and did not project at all above the surface; the neighboring sclera, however, was slightly congested. A month later, with more accurate correction, her vision was 20/30— with the operated eye. She returned Dec. 28, 1898, stating that the right eye had been a little inflamed for a few weeks after she reached home, but since then had given her no trouble, except now and then to feel as though something were in it. About the 1st of September she got much heated and exhausted crossing a rough field and, within a few weeks thereafter, noticed that the sight of the right eye was getting poor; this was followed by decrease in the sight of the left eye, which at the time of her visit to me

had had vision of —20/100. This decrease in vision has continued, although she has had no discomfort, nor to her knowledge any inflammation in either eye. I found the right eye to have a few large vessels in the neighborhood of the entangled bit of iris, but the eye was otherwise free from congestion; the pupil was freely movable and showed no signs of iritis; the vitreous, however, was full of fine opacities, and the vision with correction was only 3—5/200. The left eye showed the merest trace of deep ciliary injection below—ordinarily I should not have considered this abnormal, and am not certain that it was so. The corneal surface was slightly stippled below, with an extensive deposit of fine dots on its posterior surface. The pupil was small, nearly secluded by firm synechiæ on which atropin had no effect. Vision was equal to fingers at two feet; projection good. A sweat cure produced a slight improvement in the vision of the right eye, but there were no new developments until this spring, when, on May 6, 1899, she returned, stating that the left eye had been badly inflamed for about two weeks. I found the operated eye unchanged, but the left eye was deeply congested as far back as could be seen. Salicylate promptly relieved this, and as the tension was found to be a little high, an iridectomy was made four days before this writing. This was followed by a very little reaction, and as the sight of the eye is good considering the opacity of the lens, there is some chance that if the inflammation can be kept from returning she will eventually get useful sight in the eye.

Any one who has not seen this last case might question the diagnosis of sympathetic ophthalmia here, but I have no doubt whatever that it is one of the mild forms of this disease, and that the bit of iris in the angle of the wound of the operated eye was the starting point.

I have not completed the microscopic examination of the enucleated eyes from the first two cases. The main conditions of importance thus far found are practically identical in both; the ciliary body is densely infiltrated with leucocytes, this infiltration extending back into the choroid and suprachoroidal space, becoming more pronounced toward the posterior pole of the eye, where the posterior third of the choroid is so spread out by inflammatory products as to be five or six times as thick as normal. The evidences of inflammation, as shown by an increase in the number of leucocytes and in the connective tissue cells, is marked along the vessels and nerves penetrating the sclera from the limbus to the posterior pole of the eye, and to a slight extent in the peripheral extremity of the intervaginal space of the optic nerve. There is also a slight increase in the number of leucocytes in the vitreous, this being most marked in the ciliary region and in front of the optic nerve, the physiologic excavation of which is full of them. On the other hand, farther back in the nerve, there are no very decided evidences of inflammation along the central vessels, as my previously published experiments on rabbits would lead one to expect. In the optic nerve trunks there may be some increase in the nuclei along the trabeculæ; but this is certainly not marked enough to indicate that any germs passed this way. At one point the infiltration of leucocytes seems to have broken through the wall of one of the vorticose veins on its passage through the sclera. The retina is slightly infiltrated with leucocytes through about the anterior tenth and at several points between this and the optic nerve. Aside from this it is apparently normal. In the eye of Case 1 nothing was found of the piece of steel which originally injured the eye, and as the rather peripheral wound which was made to extract the lens was filled with a mass of leucocytes and broken up iris tissue, it is probable that the cause of the sympathetic ophthalmia was the operation wound rather than the original injury.

All of these cases indicate three points of importance; the first is the entire absence of the premonitory symptoms, such as photophobia, ciliary injection, and asthenopia, which most books still give as the warning of danger from sympathetic ophthalmia. None of these patients, nor of any of the others whom I have seen with genuine sympathetic ophthalmia, had anything of the sort. The uninjured eye felt entirely well up to the time when the appearance of inflammatory products showed that the inflammation was there and, as the event proved, in such a way as to progress steadily in spite of prompt enucleation in most of them. The second point is the importance of daily tests of vision, especially in cases which are not under the constant observation of an oculist, since in the cases in which the entire course of the disease could be watched, the failure of vision was the symptom which would first have attracted the attention of a non-expert. The third point is the value of large doses of salicylate of sodium after the disease has broken out. I had treated my other cases with atropin, hot applications and mercurial inunctions without any effect that I could determine, but the influence of the salicylate in these later cases was so marked and its result on the whole so favorable that I do not hesitate to recommend it as the most important remedy that I know for the disease. It should be noted, however, that the amount used was so large as possibly to be thought excessive by some; 180 grains in the twenty-four hours had to be given in Case 2, before the disease was checked. This was given in 15-grain doses in a teaspoonful of brandy, and the patient kept in bed while the salicylate was being taken. As the boy's weight was not over 130 lbs., a full-sized man would require at least 200 grains as a proportionate dose. Perhaps it is also worth mentioning that in Case 2, and in one other which I have seen, heat applied in the ordinary way—i. e., moderate-sized pieces of cloth or cotton wet with hot waater and changed every half minute—seemed to act unfavorably, while the greater body of heat furnished by poultices, changed frequently, seemed to do much more good. The explanation for this may be that in these cases much of the inflammation was seated so far back in the eye that the milder heat reached the deep-seated inflammation only in such a degree as to stimulate rather than to check it. I have had a similar experience in deep-seated affctions of the mastoid.

With regard to the bearing of these cases on the theory of sympathetic ophthalmia, the entire absence of the symptoms of sympathetic irritation certainly speaks against the influence of the ciliary nerves as an important factor. While the pathologic conditions, in spite of the fact that I have, as yet, found no germs in the eyes, show plainly the existence of an infectious inflammation, strongly pronounced in the posterior as well as the anterior region of the eye; passing out of the globe along numerous avenues which might lead to the other eye; or, as indicated by the condition of one of the vorticose veins, into the general circulation. The presence of inflammatory products in the anterior chamber, simultaneously with the occurrence of retinitis at the posterior pole of the second eye, in Case 1, and before the occurrence of marked ophthalmoscopic changes at

the posterior pole, in Case 2, are about what the anatomic conditions would lead us to expect if the disease had spread down from the cranial cavity through the intervaginal space; since from the peripheral extremity of the latter the short distance to the retina and to the optic disc is probably compensated for by the freer communication with the iris and ciliary body through the suprachoroidal space. Without pretending to have looked up the point thoroughly, I do not remember that fresh retinal exudate had previously been observed in sympathetic ophthalmia. The roundish patches of choroidal atrophy visible in the later stages, in Case 1, were exactly like those previously described by Hirschberg, Haab and others; and are simply one more indication that sympathetic ophthalmia is a diffused inflammation of the choroid as well as of the ciliary body and iris.

Whether the inflammation reaches the second eye through the optic nerve trunks via the chiasma, as first suggested by Alt or possibly by Mackenzie—the latter's language is ambiguous on this point—or through the intervaginal and subdural spaces, according to Leber and Deutschmann, or along the vessels penetrating the eye and passing through the orbit to the cranial cavity, as first suggested by me and considerably later by Gayet, or through the general circulation as suggested by Berlin, may be considered an open question. I am inclined to think that any one of these paths may at times be taken, but I firmly believe that sympathetic ophthalmia is an infectious disease caused by germs which are yet to be determined on. The main objection to the germ theory of sympathetic ophthalmia is that germs have so seldom been discovered in enucleated eyes; and none but Deutschmann has been able to produce anything like sympathetic ophthalmia in animals. Since the latter of these objections applies equally to any other theory, it need not be considered. Against the other objection may be urged: 1, that many of the eyes examined with negative results have been enucleated not for real sympathetic ophthalmia but for sympathetic irritation; 2, that the difficulty of identifying germs in the tissues with the microscope, unless they are extremely numerous, is so great that the failure to detect them is of very little value as a proof of their absence. Perhaps the most striking example of the difficulty of the microscopic determination of well-known germs in the tissues is given by the tubercle bacillus, which, in the less virulent forms of tuberculosis, is rarely discovered with the microscope, but is generally proved to exist only by inoculating the lower animals. Now, the eyes which cause sympathetic ophthalmia are generally the seat of a slow inflammation such as we should expect to be caused by a comparatively small quantity of germs and, until we have some test for them as reliable as the inoculation test for tuberculosis, it need not surprise us greatly if the germs of sympathetic ophthalmia elude our search. Furthermore, if the negative results of microscopic examinations be allowed important weight against the germ theory of sympathetic ophthalmia, they prove too much, for they could then be urged with equal justice against the germ theory of plastic inflammation in general: that is to say, if, after a wound of the eye in which no foreign body nor chemical irritant is left behind, we have a progressive plastic inflammation such as the microscope showed to have taken place in Case 2, we find no germs with the microscope, we can not urge this against the germ theory of sympathetic ophthalmia without implying that germs had nothing to do with the inflammatory sequelæ of the original wound; a proposition which I think would be scouted by any modern pathologist. It seems to me that we may assume the infectious nature of sympathetic ophthalmia with the same confidence that we may assume that of syphilis or smallpox. The clinical history and the pathologic conditions are such as we have every reason, from analogy, to believe are caused only by living germs; and the fact that we have not found them simply points to the necessity for further research, without invalidating the theory.

Finally, with regard to the theory of Schmidt-Rimpler, which combines the germ and ciliary-nerve theories, and assumes that on account of the vasomotor disturbance occasioned in the well eye by the irritation in the injured one, germs which may have entered the circulation from any part of the body find a suitable environment for their development in the well eye, I must say that this is opposed to a vast amount of important clinical testimony. If sympathetic ophthalmia depended merely on the coincidence of ciliary irritation and the accidental presence of germs in the circulation, why should we never hear of sympathetic ophthalmia in the tedious ciliary irritation existing with the numerous cases of one-sided keratitis, whether of trachomatous herpes, phlyctenular or other origin? This seems to me a fatal objection to the theory, unless we add still another theoretic assumption, namely that if the germs reach the second eye through the circulation, they must come from the injured eye; either because, from the start, they were especially adapted for growth in the eye, or because through a process of natural selection in the course of their growth in the first eye, the survivors have become especially fitted to attack eye tissues in general. I do not pretend that I have any great confidence in the theory as thus elaborated, but it seems to me that without such an addition the theory of Schmidt-Rimpler will not stand the test of clinical experience.

DISCUSSION.

DR. S. D. RISLEY, Philadelphia—I would like to inquire whether any member of the Section has seen a case of migratory or secondary ophthalmia where the primarily-affected eye had not been opened either by accident or disease or by operation? I have not seen such a case, a fact which seems to me to suggest that the primarily-injured eye must have contained germs which have migrated to the secondarily-involved eye. The last case reported in the paper recalls the history of one I reported to this Section several years ago. A hernia of the iris, following an injury, was immediately excised. The eye recovered without marked reaction, but in a few weeks became the subject of acute, non-suppurative iridocyclitis. The vision sunk to the ability to count fingers, but under treatment slowly improved to 20/30. Then came the onset of trouble with the fellow eye, characterized by hyperemia of the disc, followed by general fluffiness of the fundus and later by the deposition of exudate in the vitreous and on the posterior surface of the cornea. Vision failed rapidly to the ability to count fingers with difficulty, but, as the vision was so good in the primarily-injured eye, 20/30, it was not removed. The secondarily affected eye also slowly recovered normal sharpness-vision under treatment which was maintained for ten years, when the patient returned with sympathetic irritation and a cyst of the iris at the site of the primary injury, with well-marked iridocyclitis. The eye was excised.

DR. C. W. HAWLEY, Chicago—I am interested in this because at the present time I have a case of sympathetic ophthalmia. Some two months ago I attempted to remove a calcareous lens from the right eye. On attempting the iridectomy the iris was found to be so degenerated that it was impossible to make one. I tried several times, and then my assistant tried. In these attempts we lost all the fluid vitreous and the eye completely collapsed. We bound up the eye until the next day, when to

our surprise it had refilled, and it seemed to do nicely for some time, when she suddenly complained of loss of vision in the sound eye. I told her we must remove the old eye at once, but she did not give consent until the next morning, when we were allowed to remove it. At this time there was no apparent inflammation in the left eye and vision soon returned to 6/6. The day after the enucleation the irritation had entirely gone, but the next day it appeared again and the eye went through the various degrees of sympathetic ophthalmia. I adopted the plan which Dr. Gifford has suggested, of giving large doses of salicylate of sodium, and improvement began immediately, so that when I left home more than two-thirds of the vision had returned.

DR. D. S. REYNOLDS, Louisville, Ky.—I was somewhat surprised to hear my distinguished colleague from Philadelphia say that sympathetic ophthalmia does not occur unless the injured eye has been penetrated.

THE PRESIDENT—Dr. Risley simply asked whether any one had seen such a case.

DR. REYNOLDS—I am glad to be corrected. I am certain I have seen in rheumatic and gouty people many forms of traumatism involving the ciliary region of the eye, without perforation of the globe, in which sight gradually faded from the injured eye; and, before the completion of which ciliary irritation with increasing dimness of sight, unattended by increase of ocular tension, appeared in the fellow eye. I have seen well-characterized sympathetic irritation produce complete blindness in persons free from rheumatic or gouty taint, and in whom the injured eye was not perforated.

As to the treatment of sympathetic ophthalmia, whether irritative or infectious, wide discrimination in the choice of remedies must be exercised. In the infectious type I am sure nothing short of enucleation can offer any reasonable hope of relief to the fellow eye. In the irritative type I am sure the salicylate of sodium, and sometimes the muriate of pilocarpin, are most precious, and often efficient remedies.

As to the use of poultices and hot applications, so strongly advocated by the late Dr. Williams, of Cincinnati, and still practiced by his worthy successor, Professor Ayres, I have only to say that they have uniformly disappointed me, and I have long since abandoned them.

I have seen sympathetic irritation come on years after the removal of the fellow eye. In a patient I have in mind, a woman 26 years of age, whose eye had been removed seven years previously, and in whom there was constantly present morbid sensibility of the tissues in the orbit from which the eye had been enucleated, there were periodic attacks of irritation, with morbid sensibility to light in the fellow eye. Examination of the patient led me to suspect neuroma, such as surgeons describe as amputation neuroma. I proceeded to dissect out and remove the fused mass of tissue, and had the satisfaction of observing prompt and permanent disappearance of the sympathetic irritation in the fellow eye. Mr. George Lawson reported a case of sympathetic irritation coming on more than forty years after the injury, and in which removal of the blind eye failed to arrest the progress of the disease in the fellow eye. Other cases have been reported where persons have gone in safety for more than forty years before sympathetic irritation appeared.

DR. C. F. CLARK, Columbus, Ohio—I would like to add my testimony to what Dr. Reynolds has said concerning sympathetic ophthalmia without a break in the globe. I once was consulted in a case in which a contusion was produced by a sling-shot, and a few weeks later the child was brought to me with papillitis and iritis. This was ten or twelve years ago. I removed the injured eye and the secondary trouble subsided, leaving the patient with good vision.

DR. C. H. WILLIAMS, Boston—I would like to ask Dr. Gifford whether he has ever tried, in the early stages of sympathetic irritation, the application of the aqueous solution of suprarenal capsule? I lately had a case where it seemed as if that reduced the irritation and congestion and there was no subsequent return. It was used in the strength of about 2 grains to the dram, applied three times daily and made fresh at the time of each application. A single case does not count for much.

DR. H. GIFFORD, Omaha, Neb.—Was it sympathetic ophthalmia?

DR. WILLIAMS—Well, that is an open question. It seemed to be.

DR. S. D. RISLEY, Philadelphia—In which eye?

DR. WILLIAMS—In the eye in which the irritation developed; not the injured eye.

DR. G. E. DESCHWEINITZ, Philadelphia—In discussing this subject we should be certain whether we are discussing sympathetic ophthalmia or sympathetic irritation, for they are quite different. I have had the pleasure of making such microscopic examinations as Dr. Gifford has pointed out, and they were identical with his. I could not find evidence of the passage of microbes from one eye to the other, in any of the cases, but as Dr. Gifford has pointed out, that does not invalidate the microbic theory.

DR. MARPLE—Dr. Knapp presented a case in New York as a text for the treatment of prolapse of the iris. It caused considerable discussion and was made the special subject of discussion for one evening, as to the wisdom of pursuing the expectant plan. This past winter I had the opportunity of making the examination on the eye of a patient of Dr. Gruening, the wound absolutely limited to the cornea. The child was struck with a piece of glass which produced a transverse wound 4 mm. long on the cornea, reaching nearly to the limbus, but not wounding the ciliary region. When the child was brought in, the mother would not consent to the freeing of the iris from the wound, and it was our privilege to watch the sympathetic trouble develop in the other eye until the mother finally gave consent to have the eye enucleated. This seems to suggest that in these cases of recent prolapse of the iris it is the part of wisdom to remove it instead of allowing it to remain entangled in the wound.

DR. J. A. LIPPINCOTT, Pittsburg, Pa.—I have seen a good many cases of sympathetic ophthalmia, and my experience is not very pleasant with regard to the prognosis. I have seen some good results from the subconjunctival injections of bichlorid in physiologic salt solution. I have not used the salicylate of sodium, but shall certainly try it in a case I am observing at present.

DR. A. B. HALE, Chicago—It is not fair for us to accept any statement as to non-penetrating wound of the eye until we have very positive proof that there was no entrance of germs. I think that in all injuries of the eye, either by blunt instruments, or where there has been some abrasion of the epithelium, we should try some staining method to determine whether the epithelium is intact. I am not an adherent of the germ theory of sympathetic ophthalmia, but we should prove every step of our argument, either for or against any theory.

DR. EDWARD JACKSON, Denver, Colo.—I have had the opportunity of watching four cases of sympathetic ophthalmia, and all were from penetrating wounds. Two I saw before the appearance of inflammation in the sympathizing eye, and one within a few days after the appearance of the symptoms. In the last case the media was somewhat cloudy, but when first seen there was a very marked papillitis. In the others there was no clear evidence of trouble in the back part of the eye before the media became hazy. Three of the four cases recovered good vision. Dr. Gifford said that in none of his cases were there any of the premonitory symptoms as described in the text-books, and the same was true of mine. It is almost certain that the older descriptions of sympathetic ophthalmias have confused irritation with inflammation.

DR. C. A. VEASEY, Philadelphia—Concerning the employment of intraocular injections of various solutions, in this or any other affection, the experiments of deSchweinitz, reported to this Section a few years ago, proved conclusively that in almost every instance their use resulted in permanent injury to the integrity of the eyeball. In regard to the subconjunctival injections of mercuric chlorid, it has been my privilege to study its action in only one case of sympathetic ophthalmia, and in this case I am quite sure no benefit was obtained from its use.

DR. H. GIFFORD, Omaha, Neb.—As to Dr. Williams' question regarding the suprarenal extract, I have not used it in these cases, but I have been disappointed with it in other deep-seated inflammations. In regard to enucleating the injured eye, the whole question seems to me to depend on the vision of that eye.

If I saw a case of sympathetic ophthalmia I would not remove the first eye if it had useful vision. On the other hand, if the injured eye has no vision, or it is very low, it is wise to enucleate at once, since statistics plainly show that enucleation increases the chance of vision, even when it is done late.

THE VALUE OF CYCLOPLEGIA IN OPTOMETRIC EXAMINATION.*

BY C. M. CULVER, M.D.

ALBANY, N. Y.

This paper is, at least in part, deduced from a review of the records of examination of 1000 eyes of my own patients, in private practice, in which artificial cycloplegia has been purposely produced for the sake of optometric examination. The case records of 5257 of my first private patients have been required in order to have the desired data concerning 1000 eyes. Of the cases in which cycloplegia had been produced for the purpose of optometric examination, 19.7 per cent. were unfit for use in the preparation of this paper, because of the incompleteness of my novitiate records, which incompleteness prevented the desired comparison of the seeming static refraction, before cycloplegia, and that found during cycloplegia. The number of eyes, the records of whose examination are trustworthy—1000—was chosen partly because of the facility of computing percentages from that number and partly because time for reviewing a greater number was not found. The usual effect of cycloplegia, showing itself as an increase in the discoverable amount of hyperopia or decrease in the strength of a concave lens necessary to enable the myopic eye to see well, has, in this paper, been called a gain. In some cases the opposite effects were obtained; that is, the hyperopia has appeared less or the myopia more, during cycloplegia, than before it was produced; such eyes have been accounted as furnishing a "loss." Of the 1000 eyes, 89.9 per cent. furnish gain, 4.5 per cent. furnish loss and 5.6 per cent. neither gain nor loss. These percentages may have been affected by the fact that the examiner is apt to use a deal of effort and patience to bring the manifest hyperopia as nearly as possible to the total before having recourse to artificial cycloplegia. A gain of any amount of corrigible astigmatism has been estimated at half that amount, numerically, since a unit of gain, at right angles to the cylinder-axis, seemed to need to be averaged with the zero in the direction of the axis; which average seemed fairly stated as one-half the sum of the two. The rays entering an eye are proportionately more refracted as they are farther from the line of vision. This is partially or wholly explanatory of the 4.5 per cent. of cases in which cycloplegia resulted in what has here been called loss. It has been sought to eliminate the influence of existing fundus inflammation, in the cases reviewed, since the effect of no cycloplegic drug can neutralize the effect of such inflammation. Acting on the instruction of Dr. Edward Jackson and the corroborative testimony of Dr. Florence Mayo's investigations, it was assumed by me, years ago, that the instillation of a 2.5 per cent. solution of the hydrobromate of homatropin, in an eye, six times, at intervals of five minutes, will produce cycloplegia within an hour from the time of the first instillation. Such cycloplegia has not always resulted. In a few cases the instillation of the cycloplegic solution needed to be continued. In 14 cases of the 1000 eyes under consideration, the eye whose cycloplegia had been so sought could read Jæger's No. 2, at 24 cm., an hour after the time of the first instillation. In some of such cases the incompleteness of the cycloplegia may, perhaps, be explained by the carelessness of the person who made the instillations, although the attendants who have been entrusted with the use of the cycloplegic have usually been carefully taught, by the examiner or some experienced attendant, in the method of its use.

The total gain in the 1000 eyes was 640, 732 diopters; the total loss was 13,875 diopters; total, 626,857 diopters. Hence, average gain was .6268 diopter. There were 799 of the eyes which furnished gain, 44 loss, and 157 neither gain nor loss; 299 eyes furnished a gain of .5 D. or less; 218 gain of more than .5 D., but less than 1 D.; 96 a gain of more than 1, but less than 1.5 D.; 45 a gain of more than 1.5 D., but less than 2 D., and 17 a gain of more than 2 D., but less than 2.5 D.; 14 furnished a gain of more than 2.5 D., but less than 3 D.; 7 a gain of more than 3 D., but less than 3.5 D., and 2 a gain of more than 3.5 D., but less than 4 D. None of the eyes furnished a gain between 4 and 5 D.

One eye furnished a gain of 5.5 D. It was the *right* eye of a girl with slight convergent strabismus, whose *left* eye furnished a gain of 3.5 D. She was 11 years old when examined, in 1894; the use of Dr. Casey A. Wood's ophthalmic discs, No. 342, one hour, raised the hyperopia of the right eye from 2.5 to 8 D., that of the left from 2.5 to 6 D.; each eye was astigmatic, the right by .75, the left by 2.25 D.; this amount of astigmatism was common to each eye before and during the cycloplegia. It seems worthy of note that, in each of these eyes, the obtainable acuteness of vision was greater during than before cycloplegia; that of the right was increased from less than 6/9 to 6/6 of Snellen's standard, and that of the left from less than 6/21 to 6/12 of Snellen's standard, by the cycloplegia, or, at least, during it.

Forty eyes furnished a loss of .5 D., or less; 2 a loss of more than .5, but less than 1 D.; 2 a loss of more than 1, but less than 1.5 D., and none of the eyes furnished a loss greater than 1.5 D. None were those of persons less than 5 years old; 31 eyes of persons from 5 to 10 years old gave an average gain of 1.05 D.; 92 eyes of persons from 10 to 15 years old gave an average gain of 0.75 D.; 225, of persons from 15 to 20 years old, gave an average gain of 0.56 D.; 228, of persons from 20 to 25 years old, gave an average gain of 1.219 D.; 160, of persons from 25 to 30, gave an average gain of 0.58 D.; 128, of persons from 30 to 35, gave an average gain of 0.664 D.; 101, of persons from 35 to 40, gave an average gain of 1.05 D.; 25, of persons from 40 to 45, an average gain of 0.54 D.; 7 were those of persons between 45 and 50 years old, and gave an average gain of 0.446 D.; 3 were those of persons between 50 and 55, and gave an average gain of 0.125 D.

In a few cases I have found more hyperopia evident some time after cycloplegia than before or during it. Case 5231, a woman, 23 years old, had 100 per cent. of visual acuity, according to Jackson's standard, with each eye, without a glass or with convex, spheric .75 D., the ciliary muscle being normally contractile, on Sept. 10, 1895. On October 2, 2.5 per cent. solution of hydrobromate of homatropin was instilled in each eye, as described above. Seventy-three minutes after the first instillation, each eye had the same visual acuity—100 per cent. Jackson—with each convex, spheric 1.25. On May 26, 1899, each eye had the same visual acuity as on the former dates just given, with each convex,

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

spheric 1.75. How this is to be explained, since no disease was found in either eye at any of the examinations, is a question I ask—not answer. Another similar experience is somewhere recorded in my case records, but the time to seek its history has not been found.

Experience with the 1000 eyes in question has helped lead to the conclusions:

1. A solution of 2.5 per cent. of homatropin hydrobromate, instilled six times, at intervals of five minutes, provides trustworthy cycloplegia in the average, healthy human eye, in from one to three hours from the time of the first instillation; usually in an hour or ninety minutes.

2. As a rule the protracted use of a 1 per cent. solution of the sulphate of atropin is no more effective, as a cycloplegic, than is the 1:40 solution of the alkaloid above mentioned.

3. In 10 per cent. of patients consulting an ophthalmic surgeon, it is desirable to produce artificial cycloplegia. In such cases the production of cycloplegia is inevitable, if the examiner will provide refractive correctives that shall afford the patient the *best* service.

DISCUSSION.

DR. EDWARD JACKSON, Denver, Colo.—My experience with homatropia is that it is as reliable as any other mydriatic. I have used it for fifteen years, chiefly for private practice; and the other mydriatics in hospital work. So I have been able to compare the results obtained, and testimony of that sort is worth more than single failures of the drug to produce mydriasis. There is no mydriatic that has not failed me at times, but it has happened just as rarely with homatropia as with any other. With reference to cyclopegics, the idea that they are chiefly valuable in revealing hypermetropia is a mistake. The assistance they give in measuring the astigmatism and in showing the exact amount of anisometropia is their greatest value. Any of you will find, if you study your cases of hypermetropia carefully, that the amount which is latent is not constant in any case. It is not constant for a week, perhaps not even an hour, and if you are testing the two eyes without a mydriatic, you may get all the hypermetropia manifest in one eye and fail to get it manifest in the other, so that you are constantly liable to make a mistake between the two eyes. In the cases I have seen, where the correction has been made without a mydriatic, and I have afterward reviewed it with a mydriatic, the greatest fault often has been in the inequality of the amount of hyperopia left uncorrected; I am sure a low anisometropia of that sort gives quite as much trouble as a low anisometropia that has always existed.

DR. E. J. BERNSTEIN, Baltimore, Md.—I have been using homatropin for six years, and just this year I have had a number of instances of poisoning, or rather of constitutional effects. I have used only a 1 per cent. solution of Merck's salt, and use a drop in each eye every ten minutes until full mydriasis occurs.

DR. CASSIUS D. WESTCOTT, Chicago—One of the chief advantages of atropin over homatropin is in the fact that when we use atropin we make repeated examinations on different days. I quite endorse all that Dr. Jackson has said and especially that it is not so important to bring out all the hypermetropia as it is to estimate the astigmatism accurately, and to find out the difference between the two eyes. I too have observed the constitutional symptoms from homatropin more during the past year than ever before.

DR. W. T. BACON, Hartford, Conn.—I can not see why Dr. Bernstein should have toxic symptoms with his homatropin if he uses it correctly, and by that I mean allowing the drop to flow slowly over the cornea, instead of putting it in the lower cul-de-sac, and directing the patient to hold the finger over the lacrimal sac. I have had constitutional symptoms but once in the last twelve months. I think the Doctor has struck a lot of cases that probably had an idiosyncrasy against mydriatics. I have had a case where 1 drop of duboisin produced fainting inside of a minute and a half after it was used, and the patient was a powerful young man. I was not sure it was the duboisin at first, and tried it the second time, but I have no desire to try it a third.

DR. H. MOULTON, Fort Smith, Ark.—I wish to call attention to scopolamin, which is a most valuable compromise between atropin and homatropin, and I believe it is a reliable remedy. I have been using it in the strength of 1/10 of 1 per cent., repeated every ten minutes. At the end of an hour the examination may be made. I have found that in cases in which I had used homatropin thoroughly I was able to bring out a still higher degree of refractive error by the use of scopolamin.

DR. W. L. PYLE, Philadelphia—Cases of poisoning from homatropin are certainly rare, and I have never seen a case except in a series that occurred to me, and in that instance I found I was not using the pure drug. I would suggest that likely such was the trouble in Dr. Bernstein's cases, as I understood him to say that they all occurred in one series.

DR. GEO. F. KEIPER, Lafayette, Ind.—In regard to the use of scopolamin, the chemists have decided that that drug is nothing more than an impure atropin.

DR. B. A. RANDALL, Philadelphia—There is one point in regard to the use of mydriatics that has not been brought out, though urged by some of us for many years, and that is the superior value of hyoscyamin for many cases. It obtains its full power in less time than atropin, and retains it some seventy hours after the last instillation, with a thoroughness and completeness that is not equalled, and then has only some fifty hours of the trying stage of returning accommodation.

DR. H. M. STARKEY, Chicago—It has been a great pleasure to me to hear Dr. Culver's paper. There has been so much pernicious writing by certain ones in high authority, against the necessity of the use of cycloplegia in these examinations, that it is a distinct advantage to have a clear exposition of some reasons why those writings are pernicious. Each passing year with me but increases my distrust of optometric examinations made without cycloplegia. Twenty years ago, cycloplegia did not seem one-half the importance it does to-day.

I am also glad to hear of Dr Moulton's experience with scopolamin, since a drug that will produce certain results with a minimum of inconvenience to patient and physician, should be welcome. Scopolamin has been in daily use in my practice, both private and dispensary, for more than four years. For optometric examinations, it is employed half a dozen times where all other cycloplegics are used once, and because it is reputed to have less tendency than atropin to induce glaucoma, it is chosen in many cases of iritis in elderly people, and when for any cause there is fear of increasing the tension of the eyeball. In the many hundreds of cases, in which my associate, Dr. Mann, and myself have used this drug, we have seen no serious nor even annoying symptoms produced. There is rarely a little flushing following its application, but that is the extent of the unpleasant action observed. The advantages in its use, that have appealed to us, are its safety, its certainty, its convenience and its cheapness.

As to safety, after using scopolamin for so long a time and in so many cases, we feel as safe in its use as we can in any remedy whatever. While at least one case has been reported where its exhibition was quickly followed by an attack of glaucoma, we have not in any case noted any tendency on its part to cause increased tension. It is not conceivable, however, that any drug which dilates the pupil can be entirely free from such tendency. As several observers have reported unpleasant and even alarming symptoms after using scopolamin for cycloplegia, it may be of interest to note just how it is used by us. The strength of the solution employed is 1 grain to the ounce—1/5 of 1 per cent. solution—this being sufficiently strong for all purposes. We experimented with weaker solutions, but did not find the results uniform. This solution should be reasonably fresh, as it seems to deteriorate when exposed frequently to the air. We get an ounce of the solution at a time, which lasts several weeks, but we take from this bottle, into another smaller bottle, sufficient for a few days, and the larger bottle is opened but once in three or four days. The dropper used has a small tip so that it gives off a minute drop. One of these small drops is instilled into each eye, the punctum being averted for a few seconds to promote absorption and to prevent washing into the nose with the tears. [illegible] while still [illegible]ding before the patient, another drop is u[illegible]lled [illegible] eye,

when the patient is allowed to go at his pleasure, returning any time after one hour.

As to certainty, we have come to regard scopolamin, used in this way, as producing as certain and complete cycloplegia in one hour as will atropin used two days. We have had a few cases where cycloplegia was incomplete when using weaker solutions, and a few also when the solution was old, on two occasions, several occurring about the same time from such solutions. But with a fresh solution of 1/5 of 1 per cent. strength, I do not think we have had more than three or four failures in all these years, and in those further use of the drug completed the cycloplegia. It is well known that in certain cases atropin must be continued longer than two days to completely paralyze the accommodation. It is much more certain than homatropia which, while usually reliable, will fail to produce complete relaxation in from 2 to 4 per cent. of all cases.

As to convenience, nothing could be more simple for the ophthalmologist than this single instillation, and it is also a great convenience to be able to make a preliminary examination and then one hour later to complete the examination with full paralysis of accommodation. To the patient also the assurance that the eyes can be used again in two or three days, instead of being at rest for a week or two, as with atropin, is frequently a determining factor in allowing cycloplegia to be induced. The effect of scopolamin will always have passed by the third day, frequently by the second, and rarely on the next day the patient can read again.

The cost of cycloplegia with scopolamin is insignificant, one grain costing about 35 cents, and being sufficient for two or three hundred patients.

DR. A. R. BAKER, Cleveland, Ohio—Since our worthy Chairman first introduced the use of ophthalmic dises, I have had no trouble with poisoning or unreliable drugs, and we are very much indebted to him for this addition to our armamentarium.

DR. C. M. CULVER, Albany, N. Y.—I have not had any toxic effects from homatropin. That may be partly due to the fact that I follow Dr. Risley's suggestion, made five years ago, that any person using a cycloplegic should press the finger on the canaliculi to prevent or to lessen general absorption. I do not see why we need a compromise. If homatropin will do the work, and the patient can return to his duties within forty-eight hours, there is no necessity for a compromise.

CONTRIBUTIONS OF THE MEDICAL PROFESSION TO GENERAL LITERATURE AND COLLATERAL SCIENCES.*

BY GEORGE R. HIGHSMITH, M.D.
CARROLLTON, MO.

(Concluded from p. 280.)

Coming down to this day and generation, we have marked wealth of material.

Oliver Wendell Holmes was beyond a doubt the foremost contributor to literature and science from the ranks of the medical profession, during the past fifty years. He combined high scientific attainment with the greatest versatility and the rarest literary genius. He was equally at home among the dry bones of anatomy, within the glow of the crucible, or amid the revelations of the microscope; as a biographer, romancer, novelist, philosopher and poet, he takes high rank. Dr. Holmes' works are known and read of all men, consequently further reference is unnecessary.

Thomas Henry Huxley, 1825-1895, graduated from the medical school at Charing Cross Hospital in 1845, was appointed assistant-surgeon on H. M. ship *Victory;* then assistant-surgeon on the ship *Rattlesnake.* In 1851 he was elected a Fellow of the Royal Society. In 1860 he began his lectures on the "Relation of Man to the Lower Animals," in which he adopted Darwin's theory of evolution. He is too well known to require an extended notice.

Sir John Kirk, born in 1833, received his degree of M.D. from the University of Edinburgh, served on the civil medical staff during the Crimean War, and was medical officer and naturalist for the second expedition of Dr. Livingstone. Dr. Kirk wrote a "Report of Geological Discoveries in East Africa," and was knighted in 1881.

Samuel Kneeland, born in 1821, practiced until the beginning of the Civil War, then served as surgeon in the U. S. Army until 1865. In 1866 he was made professor of zoölogy in the Massachusetts Institute of Technology. Dr. Kneeland wrote "An American in Iceland," and "Wonders of the Yosemite."

Joseph Leconte, born in 1823, graduated from the College of Physicians, in New York, in 1845. He practiced medicine in Macon, Ga., until 1850, when he went to Cambridge and studied under Agassiz. Since 1859 he has been professor of natural history in the University of California. His works are "Mutual Relations of Science and Religion," "Sight," "Elements of Geology," "The Agency of the Gulf Stream in the Formation of the Peninsula of Florida," "The Correlation of Vital with Chemical and Physical Forces," "The Great Lava Floods of the Northwest," "Structure and Age of the Cascade Mountains," etc.

Joseph Leidy, 1823-1891, graduated at the University of Pennsylvania in 1844. He practiced medicine and taught anatomy, serving through the Civil War as an army surgeon. In 1871 he became professor of natural history in Swartmouth College. Dr. Leidy wrote more than a hundred papers on biology and kindred subjects.

Henry Morley, 1822-1894, graduated at King's College, London. In 1844, he located at Madley, Shropshire, where he practiced until 1848. He is the author of two volumes of "Fairy Tales," and "English Writers before Chaucer," etc.

John S. Newberry, 1822-1892, graduated at Cleveland (Ohio) Medical College, in 1848. He practiced medicine in Cleveland until 1855, when he was appointed assistant-surgeon to the U. S. Survey of Northern California. During the Civil War he was connected with the U. S. Sanitary Commission. After the war he became professor of geology in Columbia College, New York City. In 1869 he was appointed state geologist of Ohio. He contributed many papers on natural history and geology, the most of which are to be found among government reports and reports of New Jersey and Ohio.

Robert G. Latham, 1812-1888, studied medicine and became assistant physician at Middlesex Hospital. He lectured on forensic medicine and materia medica. His works are "Norway and Norwegians," "Varieties of Man," "The English Language," "Nationalities of Europe," "A New Edition of Johnson's Dictionary," and "Russian and Turk from a Geographical, Ethnological and Historic Point of View."

Herman August Hagen, 1817-1893, graduated in medicine in Koenigsberg, and practiced medicine for several years in his native land. In 1867 he came to Cambridge as assistant to Professor Agassiz. In 1870 he was made professor of entomology at Harvard. He is the author of several works on entomology.

Herman Helmholtz, 1821-1894, graduated in medicine at Berlin and was attached to one of the hospitals. He afterward served as surgeon in the German army. Among his works are "Preservation of Force," "Theory of Impression of Sound," "Sensation of Tone as a Physiological Basis for the Theory of Music" and "Popular Lectures on Scientific Subjects."

Sir Joseph Dalton Hooker, 1817-1892, was assistant-

surgeon to the expedition of Sir James Ross, fitted out by the English government to investigate terrestrial magnetism in the circumpolar seas. As a result of his researches during this voyage he published several volumes on "The Botany of the Auckland Island, New Zealand and Tasmania." In 1847 he went to India to investigate the plants of tropical countries. In 1851 he published the result of this expedition in two interesting volumes on "The Botany of India." In 1868 he delivered several popular addresses indorsing the Darwin theory of evolution. In 1877 he was created "Knight Commander of the Star of India." In that year he visited the United States and was cordially received by scientific circles in this country.

Benjamin Franklin Hough, 1822-1885, practiced medicine for many years in Sommerville and Albany, N. Y. In 1862 he entered the U. S. Army, as surgeon. At the close of the Civil War he was attached to the forestry division of the U. S. Department of Agriculture. The most of his literary work is found in reports of this Department, the most important being "The Influence of Forests on Climate and Rain-fall."

John Percy, 1817-1889, was a pupil of Sir Charles Bell. He practiced medicine for several years at Birmingham, England. In 1851 he was appointed professor of metallurgy in the Royal School of Mines. He is the author of "The Art of Extracting Metals from their Ores, and Adapting them to the Various Purposes of Manufacture." In 1877 he received the "Bessemer Medal" for his works on iron and steel.

Sir Benjamin Richardson, 1829-189 , received several gold medals for essays on medical subjects. He is the author of a novel, besides other contributions to general literature. He was knighted in 1893.

Samuel Smiles was born in 1813, at Haddington, Scotland, and practiced medicine in his native town for several years. He retired from practice to become editor of the *Leeds Times*. "Self Help," by Samuel Smiles, is well known. He has been a frequent contributor to the *Quarterly Review*.

John Aston Warder, 1812-1883, graduated at Jefferson Medical College, Philadelphia, in 1836. He located at Cincinnati, Ohio, in 1837, and practiced his profession until 1855, when his literary work compelled him to give up his practice. He gave much attention to educational matters; he was a member of the Board of Education of Cincinnati, and served on the State Board of Agriculture, and did much to develop an interest in landscape gardening. From 1850 to 1854 he published *The Western Horticultural Review*, and after that, for several years, *The Botanic and Horticultural Review*. He contributed extensively to periodicals, and published several works pertaining to medical, agricultural and horticultural sciences. In 1873 he prepared the official report for the United States Government, on "Forest and Forestry," for the "World's Fair" at Vienna.

George Engelman, 1809-1884, was born at Frankfurt-on-the-Main, and died in St. Louis, Mo., in 1884. Many members of this Association enjoyed his personal acquaintance. He entered the Univerity of Heidelberg, in 1827, and pursued his studies there for one year. He then went to Berlin, where he stayed two years; then to the University of Wurzburg, where he took the degree of Doctor of Medicine in 1831. His inaugural dissertation for the medical degree related to philosophic botany, mainly to the structure of monstrosities and aberrant forms of plants. Although produced so early in his career, it is still held to be one of the most philosophic works of its kind. It was published in 1832, under the title of "Antholysi Prodomus," and was much admired by the poet-philosopher, Goethe. The spring and summer of 1832 was spent in Paris, where he had Braun and Agassiz for companions. According to Engelman's statement, in reference to the time, they "led a glorious life in scientific union." In the winter of 1832 he came to America, and for three years was engaged in looking after some business interests for some relatives in Germany. In 1835 he established himself in the practice of medicine in St. Louis. In 1840 he formed the acquaintance of Dr. Asa Gray, then the most distinguished botanist in the United States, and a friendship was begun which was only broken by death. Dr. Engelman was successful both professionally and financially, as a physician, and during his latter days he was able to examine the living floras of the mountain regions of North Carolina and Tennessee, the Lake Superior region, the Rocky Mountain region and the adjacent plain, and the Pacific Coast. He was one of the principal movers in the inauguration of the National Academy of Science, his name appearing first on the roll. He was the originator of the movement to form the St. Louis Academy of Science, and naturally became its first president. The membership showed their appreciation of his scientific work by electing him president no less than sixteen times, the last but a few months before his death. In 1887, his published works were collected and published in one quarto volume of 508 pages, and 103 full-page plates, with the title, "Botanical Works of George Engleman, Edited by Wm. Trelease and Asa Gray." Dr. Engleman's associates, and also his published writings, testify to his acuteness in observation, indomitable perseverance in investigation, his critical judgment, and a rare openness of mind, which prompted him to continually revise his old conclusions in the light of new facts or ideas. As a physician, Dr. Engelman had a large patronage, and was a very busy practitioner almost to the end of his life, yet he accomplished more in the field of botany during his leisure moments and occasional vacations than many who have devoted the whole of their lives to the work.

Jose Rizal, who died in 1896, a physician, scholar, novelist and poet, was born in Manila, P. I., of native parents, graduated at the University of Madrid as Doctor of Medicine and Philosophy, and afterward studied in Paris, Heidelberg, Leipsic and Berlin. He then returned to Manila, where he published a novel which dealt so severely with the corruption of the church on the Islands that he was banished by the Spanish government. After visiting the United States, Rizal went to London, where he devoted himself to further study and published another novel. He then practiced in Hongkong for some time, and finally went to Borneo, intending to found a colony of Filipinos. Returning to Manila to recruit for his colony, he was seized and imprisoned on the Island of Dapitan. After he had been four years on the island, all the time under surveillance of his Spanish guards, another insurrection broke out in the Philippines. He was taken to Manila, charged with inciting the uprising and condemned to be shot. Many humane Spaniards and Spanish newspapers protested against the shooting of Rizal. One hour before his death he married his betrothed, a beautiful Irish girl. As an illustration of the refinement of Spanish cruelty, his own countrymen were compelled to do the shooting. Back of the row of Filipinos stood Spanish soldiers ready to cut them down if they faltered in their cruel work. "Never," said an eye-witness, "never shall I forget that awful morning, nor the horror-thrill that came with the report of the cracking rifles, as his man-

gled body fell on the public promenade, amid the jeers of Spaniards and monks." The day before his death Rizal wrote a poem which was his dying message to his native land, one stanza of which I quote:

Farewell, adored Fatherland; our Eden lost;
Farewell, O sun-adored region; Pearl of the Eastern sea;
Gladly I die for thy dear sake. Yea, thou knowest well
Were my sad life more radiant far than mortal tongue could tell,
Yet would I give it gladly, joyously for thee.

In France and Germany he lived among the peasants for months at a time, for the purpose of studying their characteristics. He came to the conclusion, at last, that all the human races are different in their outward habits and their build, but not in their psychology. White, brown, yellow and black feel and are controlled by the same passions and emotions. He repudiated the doctrine that there are races of limited capabilities, that can never rise to the level of the Europeans. His execution was on *Dec. 30, 1896.*

I have refrained so far from referring to those who have been educated for physicians and taken a degree in medicine, but have never engaged in active practice for any great length of time, yet have gained reputation in other pursuits, especially in literature and science. Among these I mention Tobias Smollett, George Crabbe, John Locke, Oliver Goldsmith, J. G. Holland, Ernst Haeckel, Hayden, John Keats, Asa Gray, and others too numerous to mention.

Among those who are now living and active contributors, I may mention A. Conan Doyle and S. Weir Mitchell; their names have not yet passed into history, but their fame is secure.

The medical profession has not only gained a conspicuous place in literature and science by original work and investigation, but has won such a place in general esteem as to attract the admiration of the professional literati. Some of the most lovely and lovable characters introduced into recent fiction are physicians, viz., Dr. Lydgate in "Middlemarch," Dr. Jekyll in "Dr. Jekyll and Mr. Hyde," and Dr. MacLure in "Beside the Bonnie Briar Bush."

Besides filling no inconsiderable niche in general literature, the fields of mental and moral sciences, chemistry, botany, zoölogy, physiology and natural history have been especially enriched by contributions from physicians. The facts on which Darwin's theory of evolution is based would be very meager indeed without the contributions furnished by the medical profession. That poetry and the natural sciences should be especially attractive is not to be wondered at, when we remember that the physician's professional work brings him face to face with Nature. The physician who has been engaged in the practice of medicine for several years, especially in the country, who does not love blue skies, green fields and running brooks, gorgeous sunsets, mellow twilights and fair dawns; the song of birds, the hum of bees and the prattle of children; who is not able to appreciate Nature in all her moods, and as the poet expresses it, find "songs in trees, sermons in stones, books in running brooks, and good in everything," has lived but to little purpose.

Cocain in Herpes Zoster.

Bleuler writes to the *Neurol. Cbl.* of Nov. 15, 1899, that he has treated and cured 23 cases of herpes zoster with a 1 per cent. salve of cocain in equal parts lanolin and vaselin. The pain and spread of the disease are arrested at once, and the cure is complete in eight to ten days.

Clinical Report.

FOREIGN BODY IN URETHRA.

BY L. M. GREENE, M.D.
BETHEL, VT.

On Aug. 3, 1898, I was called to a neighboring town to operate on a man, 43 years of age, suffering from a foreign body in the urethra. Nine days previously, while manipulating the inside of his penis with a lead pencil, it escaped into the urethra. After five days, being unable to urinate, and suffering severely from pain, his physician was called, and attempted to pass a catheter, which was arrested at the proximal extremity of the pendulous urethra. I found an enormously swollen scrotum, with extensive extravasation of urine throughout the perineal and pubic regions, extending to Poupart's ligament. There was a constant dribbling of urine from the penis, none having been passed naturally during the nine days. The man was suffering extremely, temperature 103, pulse 120. With the assistance of the attending physician, Dr. F. E. Steele, and Drs. C. C. Smith and O. D. Greene, under ether and in the lithotomy position, an incision was made from one inch anterior to the anus well into the median raphe of the scrotum. A large quantity of offensive-smelling, decomposed urine, pus and blood followed the knife. The point of the pencil was found two inches anterior to the anus. It was a large-sized lead pencil with a metallic head; 6½ inches in length. It had been introduced head first, passing the length of the pendulous urethra where it ulcerated through into the ischiorectal fossa of the left side.

A large metallic catheter was then passed into the bladder through the penis, and a quart or more of decomposing offensive urine removed. The bladder and wound were thoroughly irrigated with bichlorid solution, 1 to 4000, the metallic catheter changed for a gutta-percha one, and the lacerated, ulcerated urethra trimmed and sutured over it with chromicised catgut. After-treatment consisted of a daily washing of the wound and bladder, and packing of the wound with iodoform gauze. The wound was left open throughout its extent. After two weeks the catheter was removed from the bladder and a soft rubber one introduced daily, for irrigation. At this time the urine mostly passed naturally, only a slight leakage occurring in the wound. At the end of eight weeks the perineal and scrotal wound had healed. A metallic sound, No. 26 French, was passed daily. No urine escaped through the perineal wound after the end of six weeks. A sound was passed for three months, from once a week to once in two and three weeks. At the present time the man is in perfect health, with his habit of masturbation probably cured.

Therapeutic Application of Clabbered Milk.

The *Archives Orientales*, December, 1899, contains a communication from Dr. Paschayan describing the fine results obtained in gastro-intestinal affections by the exclusive use of sour milk. The Kurds give it exclusively in acute enteritis, curing the patient in three or four days without other medication, and our Turkish confrère has been using it since 1888 with remarkable success in many cases. One young man affected with "putrid dyspepsia" for over a year had consulted numerous physicians and tried all kinds of food and medication, but was unable to digest or retain anything on his stomach. "Instructed to eat nothing but clabber, his vomiting ceased from the first day and he rapidly recovered, until by the end of two months he could eat and digest apparently normally." Paschayan also gives it as a drink to typhoid patients.

Therapeutics.

Treatment of Diphtheria.

Dr. H. B. Sheffield, in the *N. Y. Med. Jour.*, says *Merck's Archives*, recommends the following procedure in the treatment of this disease:

1. Endeavor to subdue the hyperemia and excessive exudation in the throat in order to avoid respiratory obstruction.
2. Destroy at the earliest moment the diphtheria bacilli at the point of entrance in order to prevent the excessive formation and immediate absorption of the diphtheria toxin.
3. Increase the power of resistance of the patient, and administer such remedies as will combat or neutralize the toxic substances, thus preventing their dissemination in the internal organs of the body.
4. Promote the action of the lymphatic system, kidneys and bowels in order to eliminate rapidly the poisonous products.

In following Nos. 1 and 2, germicides must be used, but care must be exercised that they do not act simultaneously as active escharotics. The author applies to the throats of his patients, by means of a cotton swab, a combination of carbolic acid and camphor dissolved in alcohol and glycerin, together with papain as a solvent for the membrane. Eight grains each of the carbolic acid and camphor are used in a two-ounce solution. The throat is painted with this every two hours and a new swab used every time. For the nose the author uses the following:

℞. Hydrogen peroxid ..... ℥iv
Sodii boratis ..... ℥ii
Glycerini ..... ℥ii
Aquæ rosæ, q. s., ft. ..... ℥iv

M. Sig. One tablespoonful to be instilled into the nose every two hours in the presence of diphtheritic membranes in the nares, and every four hours in their absence.

The third and fourth indications must be met with good nourishment, iron preparations, nerve and heart stimulants, diuretics, and laxatives. In giving stimulants he never waits for cardiac debility to set in, but always anticipates its possibility from the very start. Where food can not be administered by the mouth, nutrient enemata should be resorted to. The author is in the habit of prescribing the following:

℞. Tinct. ferri chloridi
Tinct. myrrhæ, āā ..... ℥ii
Glycerini ..... ℥ii
Syrupi zingib, q. s., ad ..... ℥iii

M. Sig. One teaspoonful to be given every three hours to a child 3 years old.

℞. Strychninæ sulph ..... gr. 1/4
Liq. ferri et ammon. acet ..... ℥iii

M. Sig. One teaspoonful to be given every six hours to a child 3 years old.

The author rarely uses antipyretics, but finds that small doses of any of the stimulating synthetic products answer well to reduce temperature and relieve pain. A laxative administered once a day is useful. In marked irritability of the child, sodium bromid, combined at times with a small dose of chloral, is very serviceable.

In laryngeal diphtheria, if any deposit is visible along the fauces, he uses the first mixture given and he always orders cleansing the nose with the second. In severe cases intubation should be practiced, to avoid resorting to tracheotomy. The internal remedies enumerated are of undoubted value in this form. After intubation no liquids must be given by the mouth; strychnin should be administered hypodermically.

For the reduction of the swelling of the submaxillary glands, iodin ointment—10 per cent. of ichthyol—is an excellent remedy. The author now uses antitoxin in all cases of laryngeal diphtheria, stating that he has had good results from its use in combination with the other treatment, but is not prepared to say how much of the benefit is due to the antitoxin and how much to the other remedies.

Treatment of a Cold.

Max Nassauer, writing in the *Cincinnati Lancet-Clinic*, aborts an incipient cold, i. e., when sneezing, tickling, and increased secretion announce the onset of an attack, by thoroughly irrigating each nostril with a weak—pale pink—solution of potassium permanganate, the fluid being allowed to run through the other nostril and the mouth. Each nostril is then wiped out with cotton on the finger. A small dry plug of cotton is then pushed well up into each nostril, and the nostrils are filled with the weak solution, the cotton being allowed to absorb it. The plug is left for an hour, when it can be expelled by blowing the nose. While agreeing with Dr. Nassauer that the permanganate irrigation may exert a specific action on the germs of coryza, the filling of the nostrils with cotton soaked in the solution appears to us objectionable, since it certainly must irritate an already inflamed mucous membrane, and also because the permanganate having expended its oxidizing powers on the cotton—organic matter—would be practically without germicidal action.

Dr. A. S. Barnes, in an article in the *Interstate Medical Journal*, gives the following method to cure a cold quickly: He produces profuse sweating by a tub bath as hot as can be borne for five minutes, then rolling the patient in a warmed blanket, putting him to bed and heaping on covers. He also gives ⅛ gr. pilocarpin hydrochlorate in half a glass of warm water—less pilocarpin if the patient is weak and thin. After three-quarters of an hour's sweating give 1/100 gr. atropin in water. Fifteen minutes after this, mop—do not use friction—with warm towels. Then place on him a warmed nightrobe, put him between warmed sheets with his ordinary covering over him, and give the following prescription:

℞. Phenacetin ..... gr. xviii
Salol ..... gr. xxxvi
Caffeinæ citratis ..... gr. iv

M. Ft. in caps. No. xii Sig. One every two hours.

Be sure to tell the patient that dribbling from the mouth is caused by the medicine and will soon disappear. It is claimed that this method will cure a cold more quickly than any other.

Treatment of Hemorrhoids.

We quote from the Paris letter by Dr. A. R. Turner, in the *Therapeutic Gazette*, the following:

When excoriations exist on hemorrhoids, or when there is slight loss of blood, suppositories can be administered:

℞. Chrysarobin 08
Iodoform 02
Ext. of belladonna 01
Cacao butter 2

M. For one suppository. Sig. Two or three daily.

The following ointment may also be used:

℞. Chrysarobin 8
Iodoform 3
Ext. of belladonna 6
Vaselin 10

M. Sig. Use locally several times a day.

When small tumors exist, local applications of the following solution are very useful:

℞. Iodid of potassium 2
Iodin 2
Glycerin 35

In case of hemorrhage, no preparation seems better than hamamelis virginica, a teaspoonful of the fluid extract thrice daily in a half tumblerful of water.

Administration of Bromoform.

Wilbur L. Scoville suggests the following formula for administering bromoform:

℞. Bromoformi ..... ℥ss
Tinct. tolutanæ ..... ℥i
Mucilaginis acaciæ ..... ℥ii
Syrupi ..... ℥iv
Aquæ menthæ viridis, q. s., ad ..... ℥ii

M. Ft. emulsion.

Each teaspoonful contains m. ii of bromoform. The quantity of bromoform may be varied at will. The mixture is to be shaken before taking.

Advantages claimed: Minimum amount of alcohol, accurate dosage, other medicaments may be added, very palatable.—*Pediatrics*, January 15.

A Local Aphrodisiac.

J. Coplin Stinson, of San Francisco, writing in the *N. Y. Med. Jour.*, recommends echinacea angustifolia as a local aphrodisiac. He uses Lloyd's echinacea, s. t., applied freely to the glans penis and corona, using from 20 to 60 drops. He claims that it immediately produces a mild, pleasantly tingling, penetrating

burning sensation, and that in from 2 to 15 minutes erection occurs. He also states that the interval between erections is shortened. All forms of impotence, functional as well as organic, can be benefited; but he advises, of course, treating the primary cause at the same time. If these claims bear the test of practical experience, echinacea is bound to become a popular drug.

Treatment of Scorpion Bite.

Readers of THE JOURNAL in the tropics may be interested in the treatment advocated by F. J. Romero, in the *Cronica Med. Mexicana* of January 1, with which he has been successful in all but 3 out of 19 cases. The intoxication was very severe in 49. He first examines the spot bitten and seeks the exact point where the poison entered, by testing the skin with a quill toothpick until he locates the least sensitive point, which he then examines with a magnifying glass: a livid spot surrounded by a darker zone. Here he makes an incision and applies a cupping glass, withdrawing a few grams of blood, then cleanses and cauterizes the spot and applies a ligature between it and the heart when possible. He prescribes the following:

℞. Canellæ et jaborandi infus.....3xxx 120
Tinct. iodini .....gtt. xx 1
Potassii iodidi.....gr. xv 1
Ammonii acetatis.....3iss 6
Ext. guaco.....gr. xv 1
Syrupus simplicis.....3iv 15

M. Sig. A tablespoonful every twenty minutes. For children under 6 years a half teaspoonful.

The warmth of the body must be kept up and the extremities frictioned, with inhalations of ether or chloroform. In case the trismus renders it impossible to admisister the medicine per os, he administers it diluted in small enemata. As the patient recovers the intervals between the doses are lengthened.

Strontium Bromid in Epilepsy.

J. V. Laborde announces that, with all the advantages of potassium bromid, a similar elective action on the excito-motor cells, and the same therapeutic and physiologic activity, strontium bromid is a substance far better tolerated by the organism than any other bromid, and the dose can be rapidly increased to the effective amount without inconvenience of any kind and will conquer epileptic seizures of functional origin and nature, no matter how inveterate or frequent. It can be substituted for the maximum dose of potassium bromid from the start, and thus easily and rapidly arrest the seizures and terminate the manifestations of the disease. He commences with 4 gm., increasing progressively to 10 or 12, fractioned by 2 to 4 gm. for the adult. The effective dose for a child is 2, 6, or 8 gm.. He states (*Bull. de l'Acad. de Méd.*, Dec. 5, 1899) that he has an experience of five cases permanently cured and tested by time, and many others in which he arrested in a week an epilepsy with eighteen to twenty seizures a day.

Chloral Hydrate in Nervous Dyspepsia.

This drug is highly recommended by Rosenbach as a gastric sedative in this disease, says *Merck's Archives*. In all instances where there was no actual organic disease, the drug proved most effectual in relieving the many gastric symptoms of which neurotic individuals are prone to complain. Especially was this true of the headache, dyspepsia, flatus, cardiac palpitation and oppressive sensation of fulness coming on immediately after eating, and also of the still more trying manifestations several hours after meals, particularly if mental or physical exertion intervened, in which, in addition to the more strictly localized symptoms, there are added great fatigue combined with obstinate insomnia. In such cases chloral hydrate may be administered in doses of from 1½ to 3 grains, well diluted, and given from one to two hours after meals, to be repeated or increased if needed. The same amounts given two or three times a day were found effectual in replacing the bromids in a great variety of disorders of neuropathic etiology.

Glutol As an Antiseptic.

Dr. Augustin Henry concludes an interesting paper, in the *Therap. Monatsh.*, on his observations as follows:

1. In the presence of living tissues, glutol, by its gradual decomposition, yields a continuous supply of formaldehyde, thus possessing the antiseptic properties of this agent.

2. It is odorless, non-toxic and non-caustic, producing neither the inflammatory nor other undesirable symptoms attending the application of formalin in solution.

3. In the dressing of wounds, suppurating areas, and burns, it is superior to antiseptics such as salol, bismuth subnitrate, and iodoform.

4. Its use presents especial advantages in instances where the irritating and toxic properties of other substances make a harmless antiseptic desirable.

5. Where the tissues are necrotic, the action of glutol may be increased by the additional application of a hydrochloric acid pepsin solution.

Palatable Castor-Oil.

The following useful formula is published in *Merck's Report*:

℞. Saccharin .....gr. xii
Olei gaultheriæ (or menthæ pip).....m. xx
Alcohol 3iv
Olei ricini .....Oi

The addition of saccharin, aromatic oil, and alcohol has been used by us in making cod-liver-oil palatable and is very successful.

Sodium Sozoiodolate in Soft Chancre.

Grivzoff (*Berl. Klin. Woch.; Brit. Med. Jour.*) rejects dermatol and xeroform in the treatment of soft sore. On the other hand, he prefers europhen to iodoform, believing that the former is a more active specific. But he finds the sodium sozoiodolate, already much used in washing out the bladder, a better specific even than europhen. It is quite free from smell, and is not poisonous. At first it should be mixed with some inert powder, as it is apt to cause a smart burning pain when applied, but after a few days the affected part grows less sensitive, and the pure preparation may be freely applied.

Spermin in Neurasthenia.

Max Salomon, of Berlin, reported, in the *Berl. Klin. Woch.*, two severe cases of neurasthenia occurring in women aged 48 and 54 years respectively, who, having been unsuccessfully treated by various nerve tonics, and other remedial measures, were promptly cured by spermin. The drug was administered hypodermically, the injections being made at first daily in the back, near the spinal column, and as the symptoms improved and the patients gained in strength, every other day, or even less frequently. For the injections a 2 per cent. sterilized solution was used in doses of 1 c.c.

For Chaps, Etc.

The *Jour. de Méd. de Paris* for Dec. 3, 1899, attributes the following to Vigier:

℞. Tannic acid.....gr. viiss
Glycerin at 30.....3v
Hydrolate of roses.....3xxv

M. Dissolve. The hands are to be rubbed morning and evening with a few drops of this solution to render the skin supple and disperse the chaps. It is useful for chapped lips.

Intractable Aphthae.

The following formula appears in the *Louisville Medical Monthly*:

℞. Acidi salicylici.....gr. xxx
Alcohol .....m. cxxx
Glycerini, q. s., ad.....ʒi

M.

Treatment of Syphilis.

A new combination for hypodermatic injection in syphilis is the following:

℞. Hydrarg. chlor. mit. .....gr. lxviiss
Orthoform .....gr. xii
Ol. petrolat.....3iiss

M. Sig. 15 to 30 drops can be injected; securing the analgesic effect of the orthoform.—*Loza.*

A Prescription for Gravel.

℞. Sodii bicarbonatis.....ʒiss
Acidi benzoici.....gr. xxx
Sodii phosphatis.....3ii
Aquæ bullientes.....ʒiv
Dissolve, filter and add aquæ cinnamomi....ʒvi

M. Sig. Two tablespoonfuls of this mixture may be given three times a day in cases of uric acid gravel.—*Jour. des Praticiens.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, January 27.

1.— Selections from the Lane Lectures: Cardiac Physics. Thomas Clifford Allbutt.
2.—*Case of Multilocular Pseudomucinous Cystadenoma of Right Ovary, Associated with Pronounced Symptoms of Diabetes, Operation with Recovery, Followed by Disappearance of Sugar from Urine and Diabetic Symptoms. Henry D. Beyea.
3.—*Athetosis and Kindred Affections. Frank Fischer.
4.—*Medical Societies in this Country Founded Prior to the Year 1787. Francis R. Packard.
5.—*Diet as a Method of Diagnosis. C. D. Spivak.
6.— New Staining Forceps. F. J. Kalteyer.

Medical News (N. Y.), January 27.

7.—*Pruritus Ani. J. P. Tuttle.
8.—*The Great Drainage Canal at Chicago. J. A. Stewart.
9.— Experimental Researches on Effects of Increased Barometric Pressure and Foreign Bodies in the Pharynx, Esophagus, Trachea and Larynx. Geo. W. Crile.

New York Medical Journal, January 27.

10.—*Flexion or Bent-Knee Marching. E. H. Bradford.
11.—*Remarks on Intranasal Operations. Walter F. Chappell.
12.— Study of Inhibition. J. Y. Gonzalez.
13.—*Antitoxin Results and Diphtheria Definitions. A. Rupp.
14.—*Pony, Montana, as a Resort for Cases of Pulmonary Tuberculosis. John C. Schapps.
15.—*Staphylitis and Elongated Uvula. Theron W. Kilmer.
16.— Clinical Memoranda on Otitis Media Suppurativa Chronica. John F. Oaks.
17.—*Treatment for Acute Serous Synovitis Permitting of Joint Functions. Phil. Hoffmann.

Medical Record (N. Y.), January 27.

18.—*Leprosy in Hawaii. E. S. Goodhue.
19.—*Sanatorium Treatment at Home for Patients Suffering from Tuberculosis. S. A. Knopf.
20.—*Criticism on a New Method of Preparing the Skin for Vaccination by Denudation with Caustic Potash Solution. Frank S. Fielder.

Boston Medical and Surgical Journal, January 25.

21.—*A Rhode Island Philosopher—Elisha Bartlett. (*Concluded.*) William Osler.
22.—*Sixteen Years' Experience in Food and Drug Inspection. Samuel W. Abbott.
23.—*Value of X-Ray Examinations in the Less Frequent Diseases of the Chest, Illustrated by Their Use in Those Cases Where the Aneurysm is Present or Suspected. (*Concluded.*) Francis H. Williams.
24.—*Sterilizer and Equipment for Confinement Cases. Frank A. Higgins.
25.—*High Operation for Disease Within the Scrotum. J. G. Mumford.
26.— Case of Ptomain Poisoning. W. P. Coues.

Medical Review (St. Louis, Mo.), January 27.

27.— Some Remarks on the Report of the St. Louis Insane Asylum for 1897-98. Edward C. Runge.

Cincinnati Lancet-Clinic, January 27.

28.— Arabic Medicine. J. S. Tunison.
29.— Disease of Rectum and Anus. Geo. J. Monroe.

Northwestern Lancet (St. Paul, Minn.), January 15.

30.— Empyema. E. J. Abbott.
31.— Nature and Treatment of Acute Infections of Genital Tract in Women. J. L. Rothrock.
32.— Medical Legislation. T. J. Reid.
33.— Echinococcus Cysts of Liver. F. H. Odendahl.
34.— New Preparation for Treating Lithemia. G. C. Barton.

Medical Fortnightly (St. Louis, Mo.), January 15.

35.— Prophylaxis of Typhoid Fever. J. H. Miller.
36.—*Some Interesting Cases of Acquired Syphilis of the Nose and Throat. Wm. D. H. Brown.
37.—*Physiology. A. L. Benedict.

Virginia Medical Semi-Monthly (Richmond), January 12.

38.— Treatment of Club-foot with Report of Six Cases. A. R. Shands.
39.— Case of Epithelioma of Tongue. Llewellyn Eliot.
40.—*Gastrostomy for Traumatic Stricture of Esophagus: Report of Case. George Ben Johnston.
41.— Remarks on Ovarian Tumor with Twisted Pedicle, with Report of Eight Cases. Maurice H. Richardson.

Railway Surgeon (Chicago), January 23.

42.— Principles vs. Methods in Railway Surgery. A. I. Bouffleur.
43.— Report of Case of Compound Dislocation of Elbow, with Compound Fracture of Radius. W. E. Vest.
44.— Compound Fractures. A. O. Williams.

American Practitioner and News (Louisville, Ky.), Dec. 15, 1899.

45.— Hygiene of the Nose. W. Cheatham.
46.— Gall-Stones in the Common Duct: Their Diagnosis and Treatment. F. Warren Samuel.
47.—*Guaiacol in Treatment of Malaria; with a Presentation of Four Cases. Charles J. Whalen.

Medical Age (Detroit, Mich.), January 10.

48.— Visit to the Sabathu Leper Asylum. N. S. Rudolf.
49.— Poliomyelitis Anterior Acuta. Charles Mason.
50.— Errors of Refraction and Blepharitis Marginalis. William Cheatham.
51.— Vital Statistics and Health Laws. A. F. Fuchs.

Bulletin of the Johns Hopkins Hospital (Baltimore), December, 1899.

52.—*Recognition of the Poisonous Serpents of North America. Howard A. Kelly.
53.— Chemistry, Toxicology and Therapy of Snake-Poisoning. Thomas R. Brown.

Annals of Surgery (Philadelphia), January.

54.—*Employment of Local Anesthesia in Radical Cure of Certain Cases of Hernia, with a Note on the Nervous Anatomy of the Inguinal Region. Harvey Cushing.
55.—*Interscapulo-Thoracic Amputation. Russell S. Fowler.
56.—*Note on Mortality after Operation for Large Incarcerated Hernia. Henry Orlando Marcy.
57.— Surgical Aspects of Modern Small-Bore Projectiles. August Schachner.
58.— Mammoth Ovarian Tumors. James B. Bullitt.
59.— Vesico-Urethro-Vaginal Fistula. J. Shelton Horsley.

Journal of Nervous and Mental Disease (N. Y.), January.

60.—*Progressive Ankylotic Rigidity of the Spine. B. Sachs and J. Fraenkel.
61.—*Meralgia Paresthetica (Roth), with Report of Ten Cases. J. H. Musser and Joseph Sailer.
62.— Unity of the Acute Psychoses. Philip Coomes Knapp.
63.— Two Cases of Muscular Dystrophy with Necropsy. Wm. G. Spiller.

American Journal of Obstetrics (N. Y.), January.

64.—*Relation of Insanity to Pelvic and Other Lesions. A. T. Hobbs.
65.—*New Operation for Persistent Inversion of Uterus. Barton Cooke Hirst.
66.—*Frequency and Mortality of Abnormal Pelves. Edward P. Davis.
67.—*Cystic Distension of Appendix Vermiformis with a Review of the Literature of the Subject. James C. Wood.
68.— Case of Twisted Ovarian Cyst. A. Lapthorn Smith.
69.— Tubular Adenoma of Rectum (Papillary Adenoma Tubulare Polyposa). John B. Shober.
70.— Labor Complicated by Contracted Pelvis, Large Fibroma of Uterus and Eclampsia. Edwin K. Ballard.
71.—*Cause and Cure of Convulsions after Labor. A. K. Bond.
72.— Three Cases of Ectopic Gestation. Henry J. Kreutzman and Lois Nelson.
73.— Ovarian Cystoma Complicating Pregnancy. William S. Stone.
74.— Obstetric and Gynecologic Treasures of the Army Medical Museum. Thomas C. Smith.

Occidental Medical Times (San Francisco), January 1.

75.— Diagnosis of Aneurysm of Aortic Arch. William Fitch Cheney.
76.— Surgical Treatment of Aneurysm of Aortic Arch. Julius Rosenstirn.
77.— Prevention and Treatment of Acute General Peritonitis. Wallace A. Briggs.
78.— Practical Points in Obstetrics. Charlotte B. Brown.

Laryngoscope (St. Louis, Mo.), January.

79.—*Appropriate Treatment of Certain Varieties of Nasal Deflections and Redundancy. D. Braden Kyle.
80.—*Therapeutic Effects of Vibratory Massage in Chronic Deafness. Professor Ostmann.
81.— Case of Mastoiditis—Cerebral Tubercle—Death—Autopsy. Burnett C. Collins.

Medical Times (Philadelphia), January.

82.— Principle of Fixation in Fracture Treatment. Edward A. Tracy.

Canadian Practitioner and Review (Toronto), January.

83.— Report of Case of Brain Tumor. R. W. Bruce Smith.
84.— Septicemia. Chas. A. Page.
85.—*Interne Service in Modern Hospitals: Comparison of the Canadian and American Systems. T. Leonard Vaux.
86.— Chemical Rays of Solar Spectrum as a Remedial Agent. Graham Chambers.

Chicago Clinic, January.

87.— Report of Case of Cerebellar Tumor; Operation; Death; Autopsy. D. A. K. Steele.
88.— Essentials of Success in Abdominal Surgery. Florus F. Lawrence.
89.— Diagnosis and Treatment of Hemorrhage into Peritoneal Cavity. A. S. Waiss.
90.— Anatomic Reflections on Pelvic Outlet. W. T. Eckley.
91.— Postpartum Hemorrhage. Gustav Kolischer.
92.— Principles Relating to Static Machine Construction. R. V. Wagner.

Merck's Archives (N. Y.), January.

93.—*Therapeutic Value of Calcium Sulphid. Samuel E. Earp.
94.—*Treatment of Acute Croupous Pneumonia. J. M. French.
95.—*Ichthalbin as a Substitute for Ichthyol. Samuel Wolfe.
96.— Specific Treatment for Typhoid Fever. C. D. Miller.

Medical Bulletin (Philadelphia), January.

97.— Some Cardiac and Gastric Diseases. J. M. Anders.
98.—*Diet in Lithemia. A. B. Conklin.

Medical and Surgical Monitor (Indianapolis, Ind.), January 15.

99.—*Some Suggestions Concerning the Microscopic Examinations of Blood Stains in Medicolegal Cases. Frank B. Wynn.
100.— Notes of European Travel. A. J. Banker.
101.— Indiana State Medical Society. F. C. Heath.

Alabama Medical and Surgical Age (Birmingham), January.

102.— State Care of Epileptics, with Demonstrations of Methods in Use at Craig Colony, Sonyea, N. Y. Wm. P. Spratling.
103.— Fracture of Skull with Hemorrhage; Operation; Recovery. W. D. Gaines.
104.— Poison Emergencies. H. P. Pressly.

Ft. Wayne Medical Journal-Magazine, December, 1899.

105.— General Remarks on Diagnosis and Treatment of Serious Eye Diseases. A. E. Bulson, Jr.

106.— Conservative Surgery of Ovary. H. A. Duemling.

American Medical Compend (Toledo, Ohio), January.

107.— Etiology and Pathology of Tuberculosis. M. H. Bowman.
108.— Prevention of Tuberculosis. W. A. Dickey.
109.— Signs and Symptoms of Pulmonary Tuberculosis. J. H. Jacobson.
110.— Prognosis and Treatment of Pulmonary Tuberculosis. John North.

Texas Medical Journal (Austin), January.

111.— Death-Rate from Nephritis in 110 Cities in the United States, for 1898. C. H. Wilkinson.
112.— Uranalysis. W. R. Neville.
113.— The Baby's First Week. H. W. Cummings.
114.— Erysipelas. M. L. Lankford.
115.— First Stage of Labor. W. C. Taylor.

Hot Springs Medical Journal, January.

116.—*Most Important Point to be Considered in Treatment of Appendicitis. A. J. Ochsner.

Journal of Scientific Medicine (Chicago), December, 1899.

117.— Intubation. Edwin Rosenthal.
118.— Occipito Posterior Positions of the Vertex in Labor. R. C. Blackmer.
119.— Reflections of General Practitioner: 1. "How We Waste Our Money." Gustavus M. Blech.
120.— Sanguiferrin in Typhoid Fever. Isaac H. Cadwallader.
121.— Value of Feeding in Acute Diseases. Milton P. Creel.

Kansas City Medical Record, January.

122.—*A Modified Hartley-Krause Operation for Persistent Facial Neuralgia. J. D. Griffith.
123.— Some of the Complications, Accidents and Dangers in Connection with Fractures. Andrew L. Fulton.
124.— Septic Ulcer, Hysteria and Delirium Tremens. J. D. Griffith.

Medical Summary (Philadelphia), January.

125.— Cutaneous Diseases which Commonly Attack the Ear. J. Abbott Cantrell.
126.— Michievous Mutilation of Women. S. L. Kilmer.
127.— Report of Case of Necrotic Sore of Face. Jas. S. Cobb.
128.— Warfare against Antitoxin. J. A. DeArmand.
129.— Typhoid Infection. C. E. Belcher.
130.— Pneumonia. Wm. H. Russell.
131.— Fatal Needle. J. G. A. Davies.
132.— Treatment of Pneumonia. J. M. Hamilton.
133.—*Diet in Lithemia. A. B. Conklin.

Medical Council (Philadelphia), January.

134.— The Eye: How it Sees; Its Defects and Their Cure with Glasses. A. H. P. Leuf.
135.— Buisson Treatment of Hydrophobia. Benj. Edson.
136.— Extensive Burn, with Peculiar Course. Charles L. Lang.
137.— Case of Labor Complicated with Pelvic Abscess. A. L. Blesh.

New England Medical Monthly (Danbury, Conn.), January.

138.— Observations on Mechanical Treatment of Hernia and Its Adjuvants. J. Coplin Stinson.
139.— Some Reasons Why a Hepatic Stimulant and the Uric Acid Solvent are Essential in Treatment of Gout. William Hooker Vail.
140.—*Mental Element in Treatment of Headache. Philip Zenner.
141.— Advantages of Spray in Pseudomembranes of Pharynx. D. C. Brown.
142.— Lithemic Cystitis and its Treatment. G. Wight.
143.— Clinical Lecture Delivered in the Medico-Chirurgical Hospital. William L. Rodman.
144.— Alopecia. L. Duncan Bulkley.

AMERICAN.

2. **Congenital Disease and Diabetes.**—After reporting a case noticed in the title, Beyea discusses the probable pathology of this and similar cases, and concludes that in some cases of disease of the female organs, diabetic symptoms apparently dependent on the same are present, and there are also cases where the excretion of a large amount of sugar by the kidneys, without diabetic symptoms, appears to have a similar relation. Since this does not always occur in such disorders, it is probable that there must be in these some special lesions or abnormal secretion, or affection of other organs, or some special predisposing condition in the body. Such cases as are here described, and those which Tait and Lecorche have called climacteric diabetes, may be cured by the induction of the climacterium, the removal of gross diseases which prevent it, or by a normal progress of the change. He calls attention to the subject as worthy of consideration.

3. **Athetosis.**—Fischer concludes his argument for the reflex sensory nature of athetosis and similar conditions. The principal things which point to this in his judgment are that when a lesion has been found it has been in the posterior limb of the internal capsule or the adjacent thalamus. These lesions could not produce the symptoms by direct irritation of the neighboring motor tract, for if they did the abnormal movements would be more common in the lower than in the upper extremities. Chorea is frequently caused by emotions, which are impressions on the sensory and psychic centers. It is not reasonable to think that the cause of these nerve derangements should leave these centers untouched and leave impressions only on the more remote portions of the nervous system. Chronic chorea has frequently disappeared after removal of the peripheral irritation. In post-hemiplegic chorea and athetosis there is focal disease of the optic thalamus or posterior parts of the capsule. Cocainization of the motor areas prevents the occurrence of localized convulsions from their irritation (Prus). The primary point of irritation in a convulsion is sensory. In a large proportion of epileptics the initial symptom of the attack is a sensory aura. How can a lesion of the motor tract cause such an initial symptom? Many cases of epilepsy are admitted to be of reflex origin, and in many of these the disease has disappeared after the removal of the supposed exciting cause.

4. **Early Medical Societies.**—Packard reviews the data of the early medical societies in this country, and finds that such existed in the first half of the eighteenth century in Boston and New York. In the latter half was found the oldest one now existing, the Medical Society of New Jersey, organized in 1766. Several short-lived ones were begun about this time. The Massachusetts Medical Society was founded in 1781 and with the Medical Society of New Haven, founded in 1784, is still flourishing. The fourth in order of date is the College of Physicians of Philadelphia.

5. **Diet as a Method of Diagnosis.**—Spivak speaks on the necessity for detective ability, *a la* Sherlock Holmes, in the physician, expecially as regards the diet. He concludes as follows: 1. Every patient suffering from gastrointestinal troubles should be interrogated in the minutiæ of his diet, and its probable relation to the disease. 2. Since, as a rule, the answers are not satisfactory, therefore diet tests should be instituted for as long a period as it will be necessary to elicit all the required data. 3. Impress on your patient the fact that it is impossible to make a snap diagnosis. You may, at the first visit, suppose, guess, surmise, suspect and presume as to the nature of the malady, but it will be for his benefit to wait patiently until you have ascertained the cause of his trouble.

7. **Pruritus Ani.**—This condition, which is a very formidable one in certain cases, is described by Tuttle, who thinks that it is largely due to uric acid toxemia. It is only a symptom. He thinks all cases of the severe forms can be traced to rheumatism, uremic or catarrhal disease. As regards treatment, he has learned to largely rely for local applications on a combination of 10 to 20 per cent. carbolic acid, 2 to 10 per cent. salicylic acid, and 50 per cent. boric acid, with glycerin or cold cream to complete the percentage to 100. He has tried ichthyol with great benefit, and when there is pain at stool, conium and cocain have been of service. Since he has treated it on the pathologic theory given above, he has not failed to obtain complete or more or less permanent relief in every case without surgical interference.

8. **Chicago's Drainage Canal.**—Stewart describes the Chicago Drainage Canal, and appears to believe that the dangers of infection there and elsewhere will be greatly diminished by it.

10. **Flexion or Bent-Knee Marching.**—In this paper the author discusses and illustrates the different forms of gait adopted in training and practice. The ordinary city gait, or straight leg parade marching causes more muscular effort and is less suitable for long distances than the flexion method which is used by savages and is being introduced to some extent in modern armies. The pictures and remarks are instructive.

11. **Intranasal Operations.**—Chappell publishes his method of operating intranasally, and gives pictures of his annular knife, splint retainer and splints. His remarks are chiefly confined to operations on the septum, where the conditions requiring surgical interference are spurs, deviations and thickenings. The former of these if small and also localized thickening of the septum, can be treated by his annular knives, while the larger spurs, he believes, are best treated by the saw, and he prefers Mial's cross-cut instrument, working both ways, for this purpose. The treatment of septal wounds most in favor is leaving them unprotected and relying on cleansing and free drainage for good results, but this has the disadvantage of permitting exuberance of the tissues and possible hemorrhage. He therefore describes his technique and the use of splints for the purpose of preventing this inconvenience.

13. **Antitoxin in Diphtheria.**—Rupp is skeptical of the benefits of antitoxin in diphtheria. He apparently does not consider it established that the Klebs-Loeffler bacillus is essential to the disease, nor does he put faith in the statistics of antitoxin. He offers nothing, however, new or valuable on the subject.

14. **Montana for Tuberculosis.**—Cases are reported by Schapps where the climate of Montana proved beneficial to patients after failure to receive help in Colorado and the Adirondacks, and he offers the proposition as an axiom that the place where the patient contracted tuberculosis is where he must not reside. He should place the greatest practicable distance between himself and the infected locality. To move only a short distance or for a limited time is simply trifling with a deadly disease. He notices the fashion as regards sanatoriums, and suggests that the treatment of consumption should be made a national affair and places of residence remote from the large centers of population be selected.

15. **Staphylitis and Elongated Uvula.**—The condition of staphylitis caused originally by colds, quinsy, etc., though apparently a slight affection, is described by Kilmer, who also gives the treatment for elongated uvula, which is its result. While local applications are generally ineffective, he has had success in some cases with the use of tincture of chlorid of iron, but in well-marked cases amputation is the sole resource. He performs the operation himself by first using a swabbing with 4 per cent. solution of cocain, both for allaying sensibility and its moral effect, then grasps the tip of the uvula with a thumb forceps and snips it off with curved scissors. Hemorrhage is generally slight, but in a few cases persistent bleeding occurs, either from too high cutting or the hemorrhagic diathesis, which should be looked after before the operation. The after-treatment usually consists in giving liquid food for twenty-four hours.

17. **Acute Serous Synovitis.**—Hoffmann calls attention to a method of treating serous synovitis of the knee and other joints, described by him several years ago, and gives a case illustrating its success. "The method might be called the compression treatment. In his hands it has proved far more satisfactory than the old ones of rest and immobilization, hot or cold packs, evaporating lotions, etc. Its application is quite simple, though considerable care and judgment should be exercised. The principle is to fill all depressions about the joint with cotton, and then to apply strips of rubber adhesive plaster in such a way as to entirely encircle the joint and several inches of the limb above and below it, so as to make firm and equable compression. The joint in which it has been found to be of the greatest value, and in which the results both immediate and permanent are truly remarkable, is the knee. This, moreover, is the joint by far most commonly affected by acute serous synovitis, whether produced by injury, exposure to wet or cold, overexertion, or some indefinite cause." The advantages of this dressing are its light weight, the immediate relief from pain, and the permission it gives for using the joint when necessary.

18. **Leprosy in Hawaii.**—The history of leprosy in Hawaii is detailed by Goodhue, who thinks that the chance of infection to the foreigner is less than it would be in this country, as he is on the lookout for it and takes the easy needful precautions. He suggests that we should look out for lepers throughout the United States, where they can go and mingle with the public without suspicion, and quotes an authority on diseases of the skin, who says that one of the most distinguished clergymen in the United States has been a leper for years, as an illustration of its occurrence. He suggests that removal of all our home lepers to the Hawaiian leper colony would be advisable.

19. **Home Treatment of Tuberculosis.**—Knopf describes various instruments for the care and disinfection of tuberculous sputum, and the regimen he would advise for consumptives treated at home. He thinks that the constant medical supervision of sanatoriums will also be beneficial in home treatment. Marriage of consumptives should be restricted as far as possible, and the production of children avoided, as far as it can be done legitimately.

20. **Vaccination.**—Fielder reports experiments with th method first reported in THE JOURNAL, by Dr. Hutchins, o preparing the skin for vaccination by denudation with causti potash instead of scarification. He thinks it is less likely to be successful than scarification, on account of the formation of an eschar, which makes the denuded surface like parchment. The action of the caustic potash on the skin was studied, at his request, by Dr. Williams, of the New York City Health Department, on a calf. He finds that the remaining portion of the skin, after denudation, was covered with a layer of necrosed tissue, and that this might be an obstacle, either on account of its thickness or its alkalinity, to the entrance of the vaccin virus. He thinks the advantages of the method are that it is less painful and less terrifying to the patient and that it does not draw blood. The disadvantages are: 1. It takes more time. 2. It requires more skill. 3. It is difficult by this method to denude an area small enough; the vesicles are likely to be too large if the virus is very active. 4. It is less certain than scarification, no matter how skilfully done, because of the formation of an eschar which interferes with the absorption. Finally, the writer believes that the disadvantages named, together with the fact that a rather elaborate equipment is required, make the KOH method impracticable for use in wholesale vaccinations such as are performed by public vaccinators. As to its value in private practice, if it is deemed important in any particular case, such as that of a very nervous child, to avoid terrifying him, or to spare him the slight pain caused by scarification, this method may very well be tried; but unless the physician is skilled in the use of the method, or unless the virus is so active that it will "take" no matter how it is applied, he must not be surprised if failure is the result.

21. **Elisha Bartlett.**—Dr. Osler here concludes his appreciative notice of Dr. Elisha Bartlett, giving a review of his principal works and a history of the latter portion of his life. (See last week's JOURNAL, ¶ 13, p. 285.)

22. **Food and Drug Inspection.**—Abbott reports the experience of sixteen years' food and drug inspection by the State Board of Health of Massachusetts and enumerates what he considers the essentials necessary for carrying out such a system correctly. They are: 1. Sufficient appropriations. 2. A well equipped laboratory, both chemical and microscopic, with all the necessary apparatus, including that for photographing. 3. A responsible general director, who may or may not be connected with the health board. 4. An experienced food chemist and analyst, who, besides being an expert in his profession, should be able to give testimony with clearness and decision, when called on in court. 5. A collector who should watch the markets, keep track of apparent frauds, and though not necessarily an analyst, should be an expert judge of the quality of articles of food for sale, and familiar with the laws relating to fraud, so that he may have the requisite knowledge and skill to make complaints, examine witnesses, and prosecute cases before district or municipal judges. The advantages of such a system of food inspection are the protection of the public and the superior quality of food articles supplied them.

23. **X-Ray Examinations in Chest Diseases.**—Williams sums up as follows: X-ray examinations should be made both with the fluorescent screen and the X-ray photograph. Normal outlines in the upper part of the chest give us the best assurance that an aneurysm of the aorta is not present, though symptoms may obtain which lead the physician to suspect it. Outlines suggestive of aneurysm may be caused by a new growth, for example. To make a definite diagnosis of aneurysm by the usual physical examination, we may be obliged to wait for the development of marked signs, and this delay defers treatment. Before operating on an aneurysm near the thoracic aorta, the latter should be examined by the X-rays, for if an aortic aneurysm exists, operation would be unadvisable. X-ray examinations enable us to determine the extent of the aneurysm, whether or not it is increasing, and in some cases to make a diagnosis before there are physical signs.

24. **An Obstetric Sterilizer.**—Higgins describes and illustrates an obstetric sterilizer and lamp which will fit an ordinary obstetric bag, and describes the outfit, which he recommends.

25. **High Operation for Diseases of Scrotum.**—The disadva [illegible] ges of oper [illegible] crotum are the difficulty of [illegible] e sh [illegible], especially after it has [illegible] iculty of securing an [illegible] mended consists in

simply making a short incision in the groin, similar to that made in the familiar Alexander operation for shortening the round ligaments. The incision exposes all the contents of the scrotum so they can be reached with perfect ease. The field can be made perfectly clean and kept so, and a buried silver suture insures a rapid healing. There is no wounded scrotum to support and protect, no slipping of bandages, and no fouling with urine. It is surprising, he says, to see how considerable a mass may be delivered in this way, and if this is found impossible, a slight prolongation of the incision into the scrotal tissues will readily solve the problem.

36. **Syphilis of Nose and Throat.**—Brown reports four cases of nose and throat syphilis, which are of interest, in his opinion, from the fact that the inflammatory condition and ulceration occurred some time after the constitutional disease had apparently run its course, and this tendency of such symptoms to make their appearance after the disease seems in abeyance, that is, without cutaneous phenomena, is worthy of note, as, if it were not for the characteristic appearance, a wrong diagnosis might be the result.

37. **Nerve Physiology.**—In this chapter of his series on physiology, Benedict considers nerve fibers, nerve cells, the spinal nerves and the cranial.

40. This paper has previously appeared elsewhere; see THE JOURNAL of January 13, title 38, p. 96.

47. **Guaiacol in Malaria.**—Whalen reports four cases of malaria contracted in Cuba and successfully treated with guaiacol, beginning with 5 to 10 minims three times a day and gradually increasing the dose. He says: "As a result of my experience with guaiacol, I have arrived at the conclusion that, though I am unable to state positively that it is a specific in malarial fever, we possess in guaiacol a therapeutic agent of great value in many cases which have resisted the ordinary methods of treatment." In all the cases presented, quinin and other remedies were unable to control the chills and fever.

52. See abstract in THE JOURNAL of Dec. 9, 1899, p. 1494.

54. **Local Anesthesia in Radical Cure of Hernia.**—The subject of local anesthesia for the radical cure of hernia is fully discussed by Cushing, who reports a large number of cases and describes the anatomy of the nerve-supply of the parts involved. He uses Schleich's solution, No. 2, which has served his purpose best. For the anesthetization of individual nerve trunks, he has used from .5 to 1 per cent. sterilized solution of eucain B. or cocain injected directly into the nerve. Individuals advanced in years are usually kept in bed for a day or two prior to the operation, to test their ability to endure recumbency and to train them to void their urine in this position. It has been customary to administer, hypodermically, 1/10 to ⅛ gr. of morphin three-quarters of an hour before the operation, and repeat it again just before. It should be used with caution, however, as in old people it may cause confinement of the bowels and lead to distension. The operation is described in detail. Its advantages are: no post-etherization sequelæ, less liability to urinary disturbances, no backache, and comparative safety. The disadvantages seem trivial in comparison. More time is consumed, but this is about all.

55. **Interscapulo-Thoracic Amputation.**—Fowler points out the indications for this operation and the method, its complications and dangers, with a list of recorded cases.

56. **Mortality After Operation for Incarcerated Hernia.**—Two cases are reported by Marcy, both fatal, in which he attributes the issue to a sudden marked increase of intra-abdominal pressure, unduly limiting the function of the diaphragmatic muscles. No author has made reference to the danger which may occur from this cause, and he suggests that when any very considerable portion of the abdominal contents have been for a long time displaced, it is advisable to keep the patient in bed for quite a period, with a limited diet and moderate purgation. The advantage of this will be the less quantity of hernial contents to be returned and greater thinning and relaxation of the abdominal wall. The circulatory equilibrium will become more nearly normal by a gradual spontaneous reduction and diminution of the hernial tumor during the treatment.

60. **Progressive Rigidity of Spine.**—Sachs and Fraenkel discuss the two conditions of spinal rigidity, one described by Bechterew and the other the Struempell-Marie type. The former is characterized by chronic rigidity, often limited to the cervical region, other joints free. Root symptoms predominate. The anatomic findings are chronic leptomeningitis with root and spinal cord changes; the vertebral joints not being affected. In the Struempell-Marie type we have chronic rigidity of the spine with involvement of the shoulder and hip joints; no root symptoms. The anatomic findings are ossification of the ligaments, hypertrophy and ankylosis of the joints. Several cases are described, and the authors conclude that we can not consider the Bechterew type as a distinct clinic entity. As regards the other form, it has a certain resemblance to rheumatic affections, but its progressive course, and its limitation chiefly to males are marked differences. The resemblance to arthritis deformans is somewhat closer and they conclude that the changes are more in degree and localization than in kind, from this and from ordinary rheumatism. From a clinical standpoint, however, this last form deserves careful attention.

61. **Meralgia Paresthetica.**—Under this title Bernhardt has described a curious form of nervous trouble on a small surface of the outer aspect of the thigh. While a number of cases have since been reported, it is not a common disease, and the ten here added are a contribution to the subject. The diagnosis, course, etc., are fully discussed, and the authors conclude that there is considerable difficulty in classing it with either neuralgias or neuritides. It differs from the former in that pain is usually a subordinate symptom and not always present, while paresthesias are of paramount importance. It differs from neuritis in the fact that the symptoms are usually persistent and rarely progressive or retrogressive. Trophic changes never occur and the nerve is rarely tender, excepting occasionally at one point. If it were permissible to speak of a neurosis of the nerve, it would be the most fitting definition. The external cutaneous nerve of the thigh appears to be alone involved, and the authors suggest, as a definition, "a disturbance or deviation of the external surface of the thigh, characterized by various forms of paresthesia, associated with dissociation and more or less diminution of sensation." From a clinical standpoint they consider it a distinct morbid entity.

64.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1425.

65. **Uterine Inversion.**—The method described for the reduction of uterine inversion is the dividing of the cervix in the median line posteriorly, the incision being carried higher on the internal than on the external surface, the ring muscle being thus almost, if not completely, severed without opening the peritoneal cavity. Then comparatively light pressure with one finger tip on the lower uterine segment, just above the inner angle of the wound, easily reinverts the uterus. The cervix is then joined again by sutures, the whole operation requiring scarcely fifteen minutes. The case described made an afebrile recovery, and the uterus remains in good position.

66. **Abnormal Pelves.**—Davis' paper, resulting from an analysis of some 1224 patients of all races inhabiting the United States, excepting the Chinese and Indian, concludes as follows: 1. Among the child-bearing women in the United States, of the white and negro races, 25 per cent. have pelves smaller than the average and 7 per cent. have pelves larger than the average. 2. Four-fifths of the patients having abnormal pelves delivered themselves spontaneously. The operations most suitable for well-marked pelvic contraction and most successful for mother and child are the induction of labor, symphyseotomy, and Cesarean section when the mother is uninfected and the child is in good condition, and embryotomy when the mother is infected and in bad condition and when the child is dead or likely to soon die. 3. The general and the septic mortality rates of all classes of labor and of labor in abnormal pelves compare favorably with the results obtained by modern medicine and surgery when obstetric practice is conducted in accordance with modern scientific knowledge of the subject.

67. **Distension of Appendix.**—After noticing the literature, Wood concludes: 1. In nearly every case of cystic distension of the vermiform appendix recorded, there was no subjective phenomena arising from the condition and in the majority of cases it was discovered accidentally. 2. When the cyst finds its way into the inguinal canal there is danger of causing its rupture by taxis, as actually happened in Van Hook's case. 3.

The possibility of mistaking a large cyst of the appendix for a floating kidney must be borne in mind. In a thinner patient such a mistake might easily have been made in the case passing under his observation. He reports a case, and analyzes those reported by others.

71. **Convulsions After Labor.**—After giving the report of a case in which he considers the convulsions due to an acute stercoremia superimposed on the nerve exhaustion of a severe, protracted instrumental labor, Bond discusses the causes and treatment of the condition. He attributes much importance to fecal poisoning in this case, and is determined in future, whenever he has reason to believe the patient to be on the verge of labor, to advise her to take a good dose of castor-oil, followed by such other simple measures as will insure a thorough cleaning out of the large bowel. The possible bringing on of labor at this time by the purge would be no disadvantage, and the additional security against complications of intestinal origin would compensate for the nastiness of the dose. Especially is this desirable in cases where, for the daily stool, it has been deemed necessary to take one of the milder aperient pills at bedtime each night.

79. **Nasal Deflections.**—Kyle describes several varieties of nasal deflection and their treatment, viz.: the split cartilaginous septum, dislocation of the columnar cartilage, simple deflections with very thin cartilage, the letter S deflection, that involving the bony septum, those due to splitting of the cartilage, with bulging on one side only, and those with redundancy of the tissues, overlapping the septum and extending close to the floor of the nose. He notices these according to their causes: disease, traumatic, and congenital. As regards treatment, each has its own peculiarity. With the very thin and flexible form, he has used a flexible, or rather malleable tube, shaped first to fit the deformity, and then gradually widened, producing gradual pressure with slow inflammatory process. The tube should never be allowed to remain in sufficiently long to produce ulceration, and the gradual pressure will thicken the septum, increasing its strength. Wearing it from four to twelve hours a day for two or three weeks is generally sufficient. In the regular letter S curvature, surgical interference is called for. In simple curvature with redundant tissue, with thick and firm septum, if the curve extends to the floor of the nostril, a cut should be made on the opposite side close to the base and extending through the mucous membrane to the cartilage. Then, by means of a nasal saw, the cartilage should be cut to about one-third of the thickness. If the curvature does not extend to the floor, this incision should be omitted. The patient should be anesthetized, and by the use of the forceps the cartilaginous septum is fractured and crushed, permitting it to be folded into the desired shape and position, when it can be retained there by means of the tubes described. Details of the after-treatment are given. If the swelling is not marked, the tube may be left in position. While the tube is in place, the nostrils should be flushed every two to four hours, with a tepid solution of boric acid, 10 grains, and carbolic acid 2 drops, to an ounce of warm water. Until the fifth or sixth day, if the swelling is considerable, the tube should be removed daily and left out eight or ten hours, to avoid ulceration. Should the curvature extend back of the bony framework, the same method should be employed, except that in order to control the line of fracture of the septum, the bone should be sawed by means of a curved saw, at least one-third its thickness. If the deflection is a vertical one, of the V-shaped variety, before crushing, two incisions should be made two-thirds of the entire perpendicular length, dividing it into equal thirds. As a rule, there will be found enlarged turbinates with thick mucous membranes in the large nostril. These should be removed before the septum is straightened, otherwise they will produce obstruction. In that variety of the deflection in which there seems to be splitting of the two halves, with bulging only on one side, all that is necessary is a semicircular incision from the under portion of the projection, dissecting the mucous membrane, and sawing off the projection. Care should be taken to avoid penetrating the septum or injuring the mucous membrane or blood-supply of the opposite side. When there is redundant tissue, the mucous membrane should be dissected up and the V-shaped portion of the cartilaginous septum removed, the amount depending on the extent of the redundancy. The paper is illustrated so as to materially aid in the description of the operations. Each deflection requires its modification, and one method alone can not constantly be followed.

80. **Vibratory Massage in Chest Diseases.**—Ostmann reports four cases treated by vibratory massage, with the results. He offers them simply as the beginning of a study of the subject and this method of treatment. He says vibratory massage is contraindicated: 1. In all the acute inflammatory conditions of the sound-conducting apparatus. 2. In all diseases of the sound-perceiving apparatus with normal sound conduction. However, if rigidity of the ossicles exists it would be well to try the massage. 3. It would seem, from its mode of operation, that vibratory massage is of little benefit in middle ear disease attended with retraction of the ossicles, simple chronic middle ear catarrh, or when there is extensive atrophy of the membrane, or adhesions of the same. Further experiments are necessary to determine its place in these cases. Two weeks of treatment in all cases is necessary to form a fair estimate of possible benefits.

85. **Canadian and American Internes.**—Vaux makes a comparison between the hospital training facilities and systems in the United States and those in Canada. While the instruction is fully equal to the American, in the Canadian colleges, the later opportunities of the young physician are far from being what they should be, and very inferior as compared with those in the United States, according to his showing.

93. **Calcium Sulphid in Therapeutics.**—Earp finds calcium sulphid gives good results in conditions of the glandular system tending to suppuration, and in cases of indurated glands not reaching this point but discharging a thin, watery fluid. If there is a scrofulous tendency, the statement is especially worthy of emphasis. Boils are diminished in severity and frequency, and the pus becomes healthy and diminished. He reports several cases showing the benefit of the drug in different conditions. He does not use it in powder or tablet form, but prefers the gelatin-coated pills, and always examines them to ascertain whether they are reliable.

94. **Acute Croupous Pneumonia.**—French gives a synopsis of the answers to twelve questions sent out to the members of a local medical association, asking as to their treatment of acute croupous pneumonia. The majority did not believe in aborting the disease. Nearly all use local applications, 26 out of 27 using cotton or woolen jackets and 22 counterirritants in some form or other. The diet favored by the majority was a light or liquid one. Strychnin was almost universally used to sustain the heart; next to this, digitalis. Expectorants were not in favor. A small minority have used bleeding and a majority advised opiates, but the general tendency was to a sparing but judicial use of opiates, not as a routine practice. Alcoholics were not largely used, though freely by some. Cold applications were used by only a few. Several of the answers preferred the alkaloidal treatment, and four used oxygen by inhalations when respiration was embarrassed.

95. **Ichthalbin.**—From an analysis of the reports of this drug, Wolfe says: "1. Ichthalbin is non-toxic and non-irritant to the stomach, admitting, on this account, practically unlimited dosage. 2. It is an intestinal antiseptic, a stomach tonic, and an aid to constructive metabolism. 3. It has no odor and almost no taste, properties which make it easy of administration without combination or disguise."

98.—This paper has appeared elsewhere as an original, several times: see THE JOURNAL of February 3, ¶ 81, p. 287; also title 133, p. 354.

99. **Blood Stains.**—Wynn notes the peculiarities of blood stains, and concludes that with the microscope, while it may give data for saying that certain samples are not from this or that particular animal, it is impossible to say positively that any sample is human blood. He offers a method here which he has found successful in examining suspected blood clots found on leaves, grass blades and thin paper, where the usual methods were unavailing to show the corpuscles: Fragments of the clot were hardened in Mueller's fluid, embedded and sectioned, the same as in examining tissues. The sections were stained in hematoxylin and eosin in the usual manner. This rendered the demonstration of both red and white blood cells easy. The white were readily recognized by their nuclei. The red were clearly distinguishable, but too much hampered and deformed in

the meshes of the fibrin, to permit of satisfactory measurements. The latter end was achieved in the very thin portion found on the paper. This was clipped out, hardened in equal parts of absolute alcohol and ether, stained in eosin, dehydrated in alcohol, clarified for a considerable time in bergamot oil and mounted in balsam. The effect of the oil on the paper was to render it translucent. Sufficient light was transmitted to render the stained red cells clearly visible in the meshes of the paper. The paper, so to speak, was converted into a cover-glass, on which a thin blood smear had been made. The measurement of the corpuscles was then a simple matter.

116. **Appendicitis.**—Oehsner points out that the omentum naturally protects the appendix and, with the small intestines, can practically isolate it from the general peritoneal cavity, in case of inflammation. If undisturbed, and the case is only a simple catarrhal one, it will subside and the patient recover. If, however, it is a perforative or gangrenous case thus surrounded, it will form a harmless circumscribed abscess. If, on the other hand, it is disturbed, the trouble may be distributed throughout the peritoneal cavity with the worst result. He points out that in these cases we should do what we can to procure absolute rest for the parts, and prevent any interference with this protection. Especially should we avoid the giving of food, or anything that will start the peristalsis. The patient can be nourished by rectal feeding, but nothing but hot water should be given by the mouth. Following this plan, we avoid the two causes of pain, namely, pressure from gas and friction of inflamed intestinal surfaces due to peristalsis. He has used this method in a large number of cases since 1892, and in operating later has found only perforated or gangrenous appendix in a circumscribed abscess. Many of his friends have also used this method, and have greatly reduced their death-rate. There are only two conditions where the method will fail. In very emaciated patients, the omentum may be insufficient to protect the appendix, and in such a case operation should be done immediately. In patients where the attack commences directly after an unusually large and indigestible meal, peristalsis may be continued and give rise to disturbances. In such cases the stomach should be thoroughly irrigated to remove the food still remaining and any that may be regurgitated from the small intestines. He would give the rectal feeding for at least four days after the patient is apparently well.

122. **Modified Hartley-Krause Operation for Neuralgia.**—The case reported in the practice of Dr. Griffith is one of obstinate neuralgia, in which the nerve had been previously divided with only slight relief. The operation was performed, but instead of excising the Gasserian ganglion the two lower branches were excised for about one-half or three-eighths of an inch at their exit from the skull, the distal ends being pushed out. He calls attention to certain details and points suggested: 1. It may be impossible to avoid the temporal artery in the first incision; hence more profuse hemorrhage, possibly necessitating ligation. 2. Had the middle meningeal artery been enclosed in a bony sheath or canal, as is frequently the case, it could not have escaped injury sufficient to require ligation. 3. Skulls, even at this, the thinnest point, vary in thickness, requiring more chiseling if thick, but greater care to avoid injury to underlying structures if thin. 4. Excessive hemorrhage from the diplœ and the subsequent loss of the bone flap argue in favor of trephine and rongeur forceps instead of the chisel. 5. Varying inequalities at the base of the middle fossa render the location of the ganglion more difficult in some skulls than in others. 6. Elevation of the lobe did not give rise to the stertorous breathing, progressively diminished respiratory effort, nor other symptoms of compression, but probably produced the hemorrhage which proved so troublesome at the close of operation.

133.—See ¶ 98, above.

140.—This paper has been printed elsewhere and was abstracted in THE JOURNAL of Aug. 26, 1899, ¶127, p. 537.

FOREIGN.

British Medical Journal, January 20.

Bromid Sleep, A New Departure in Treatment of Acute Mania. NEIL MACLEOD.—The method recommended in acute mania, by Macleod, and which he calls induction of the "bromid sleep," consists in giving large quantities of bromid, say 2 drams, in half a tumbler of water every two hours until an ounce is given, the first day, and a similar amount in the same way the following day. The results of this heroic treatment are absolute stupor lasting four or five days or longer. He has used it in nine cases, the last two of which he reports. In the last, death occurred in the stupor on the sixth day, which he attributes to a septic poisoning starting in the condition of the mouth, which had been overlooked.

Australasian Medical Gazette, Dec. 20, 1899.

Excretion of Urine and Urea by Diminished Kidney Weight. JOHN B. NASH.—The subject-matter of this paper was suggested by a lecture on the pathology of the kidney, by Prof. John Rose Bradford, and Nash, having three patients who had been operated on and one kidney or a part of one removed, made a series of experiments, testing the amount of urine and urea for periods of about fifty days, in two cases, two or three years after the operation, and in one, where the left kidney was removed, immediately afterward. The following conclusions appear to him to be justified: 1. If the kidney be removed, then three years subsequently the healthy kidney *in situ* will excrete more than the average quantity of urine produced by two normal kidneys. 2. This same kidney will excrete, per fluid ounce of urine and per diem, the average amount of urea that would be produced by two healthy kidneys. 3. If one-half of one kidney be removed, then two years afterward the urine voided will be the same in quantity as if two healthy kidneys were present. 4. The loss of the half of one kidney will cause no increase or diminution in the percentage or total amount of urea excreted. 5. If one kidney be removed, then the quantity of urinary water excreted by the other during the seven weeks immediately succeeding the operation will be below the average daily amount. 6. The urea produced by this one kidney will be less than the average proportion usually seen as the result of the work of two healthy kidneys, but probably not below the average excreted by two healthy ones from an individual recovering from a serious operation. The general trend of his observations is in the same direction as that of Professor Bradford, that one-third of the total kidney weight in the human being would be as capable of sustaining prolonged life, as he has found to be the case in a dog. The paper has the advantage of being a contribution to the pathology of the kidney from perfectly legitimate experimental observations on the human subject.

Bulletin de l'Academie de Medecine (Paris), Dec. 26, 1899 and Jan. 9.

Polyarthritis Deformans in Infants. MONCORVO.—Forty-eight cases are on record of polyarthritis deformans in children from three months to fourteen years of age, including twenty-nine girls. Moncorvo has recently observed it commencing in a two-months infant with heredosyphilitic stigmata. The mother also had polyarthritis deformans during her pregnancy. In over half the cases it developed between the age of 7 and puberty. The fixity of the arthropathic manifestations, their symmetric and progressive invasion, and restriction to the periarticular tissues and synovial fringes, indicate the diagnosis, and iodin and electricity are still the most certain therapeutic measures for polyarthritis in infancy.

Ultimate Results of Perineal Urethrostomy. A. PONCET.—In case of certain absolutely incurable strictures, Poncet opens up the urethra and divides it, usually just above the stricture. The bladder end is then dissected out and brought down to an opening in the perineum, where it is sutured to the skin. The penile end is merely sutured across or left to take care of itself. Twenty-three patients have been thus operated on; a number over seven years ago; others five and three. The results are extremely satisfactory. The subjects have complete control of micturition and experience only slight inconvenience from the feminine method of urination, which is alone possible. None have been willing to undergo a second operation to restore the use of the old meatus, expressing entire content with their present condition. The chief drawback is that fecundation is impossible, although the genital function is otherwise unimpaired. In a few cases Poncet was able to remedy this by refraining from completely severing the urethra, and suturing the edges of the incision in the inferior wall directly to the skin, thus allowing the passage of part of the semen and urine by this orifice as well as by the new meatus.

Treatment of Arrested Growth. SPRINGER.—Among the measures to stimulate the development of the body, Swedish

gymnastics, continuous aëration night and day, saline medication, and hydrotherapy, etc., "the most effective is local stimulation of the epiphyseal cartilage of the lower end of the femur." The physiologic activity of this organ can be aroused and its building-up function be energetically stimulated by local excitations applied at this point: frictions, massage, compresses moistened with saline solution, etc., but chief in importance is electricity, in any form. The most rapid results are attained by combining static electricity with faradization of the surrounding muscles; the resulting circulatory and trophic hyperactivity is transmitted to the subjacent tissues. Muscles, periosteum and bone constitute a physiologic unity, tributaries of the same centers and receive their nourishment in common. This local action can be obtained as long as the ossification of the cartilage is not complete. General medication should also be applied to individual cases to obtain the maximum effect. The growth of this epiphyseal cartilage progresses intermittently, stopping and continuing after a period of rest. Springer also called attention to the favorable effect on the growth of the decoctions of cereals which he has been recommending for some time as a beverage.

Presse Medicale (Paris), January 3 and 10.

Passage of Serum from Blood-Vessels Into Tissues and Exudates. H. VAN DE VELDE.—The tests reported were made by injecting horse serum into rabbits. The antileucocytic property of the horse serum, which is absent in normal rabbit serum and fluids, passed almost immediately into the exudates and edema fluids of the rabbits, demonstrating conclusively that the tissues rapidly take up substances introduced into the blood by intravenous injections.

Cardiac Troubles in Convalescence from Typhoid Fever. J. MOLLARD.—In four-fifths of the cases of typhoid convalescence that have come under Mollard's observation, he has noted heart disturbances, and in about one-half the cases these disturbances, by their association in the same individual, constituted an actual syndrome with the following elements: 1. Disappearance or attenuation of the apex-beat; slight displacement of the apex of the heart when it could be distinguished. 2. Disturbances in the rhythm: tachycardia, embryocardia, arrhythmia. 3. Alteration in the sounds of the heart; mediocardiac systolic murmur; *bruit de galop;* attenuation of the first sound or of both sounds at once. All the patients had been convalescent a month at least. It is evident that the typhoid fever creates lesions in the heart muscle, and the troubles noted so frequently during convalescence are the connecting link between the initial cardiac accident and the slowly evolving myocarditis which does not become manifest for long years afterward.

Revue Hebd. de Laryngologie (Bordeaux), January 13.

Chorea of the Larynx. A. ONODI.—In this monograph Onodi states that the observations published under this heading have led to much confusion, and the term chorea of the larynx should be abandoned once for all. The observations were merely of different forms of nervous, reflex cough of various etiology and manifestations. When chorea accompanies the cough, the term "general minor chorea" includes the throat affection, and when there is a choreic agitation of the vocal cords alone, "choreiform movements of the vocal cords," as opposed to rhythmic, monotonous movements, is a good descriptive title. Under the heading, "chorea of the larynx," respiratory and chronic spasms of the glottis have been described, with a rise and fall of the larynx, due to the presence of an aneurysm. The epidemics described by Szego are cases of hysteric cough, from suggestion, phenomena of imitation, habit spasms, with nothing in common with chorea. In the observation published by Preysz, the symptomatic cough preceded a severe fatal affection of the central nervous system.

Berliner Klinische Wochenschrift, January 1 and 8.

New Names and New Conceptions in Pathology. R. VIRCHOW.—The practice of bestowing new names on diseases, etc., that have long been known, is inexcusable, according to Virchow. New names are only justified when a new conception is advanced, and then should be selected to conform to the rules of language, not some hybrid monstrosity. He refers with satisfaction to the words he has introduced into medical science: leucemia, thrombosis, embolism, myoma, glioma and myxoma, and then calls attention to the fact that when Glisson first described rhachitis he spelled it without the first h, thus forming a new word, although he evidently meant to connect the disease, rickets, with scoliosis of the *rhachis,* as shown by his illustrations. Virchow is not so positive in regard to this connection and proclaimed, in Vol. v. of his *Archiv.*, that the softening of the bones, which is the essence of rhachitis, does not affect the fully-developed bones but merely the cartilaginous or connective tissue. "But the medical world still clings to the delusion that the decalcification of fully-developed bones is the essence of what is in reality a disease of the cartilages rather than of the bones, and has little or nothing to do with the rhachis."

Fibroma in Mesentery and Extensive Resection of Small Intestine. E. LEXER.—Two meters were resected and the intestines sutured with lateral anastomosis; no drainage. The fibroma weighed 5 lbs. and was 25 cm. in diameter. Begouin has collected 29 observations of mesenterial tumors, with 14 cured, which includes Terrillon's 8 cases, one a lipoma weighing 57 lbs. Harris and Herzog report 10 cured in 18, and Shepherd has related another successful removal of myxofibroma weighing 10.5 lbs. and resection of 2.34 m. of the small intestine. Ruggi resected 3.30 m. in a boy of 8 years, healthy two years later.

Psoriasis and Glycosuria. F. NAGELSCHMIDT.—In 25 cases of psoriasis, alimentary glycosuria could be readily induced in 8, while in numbers of cases of other cutaneous affections it proved impossible to induce the glycosuria. Nagelschmidt reviews the observations of coexisting diabetes and psoriasis in literature and describes a case of Senator's in detail: a woman of 32, with psoriasis—patches noted occasionally since childhood—who died in diabetic coma. "The conclusion seems inevitable that there is some connection between diabetes and psoriasis under certain circumstances."

New Method of Treating Syphilis by Inhalation. R. KUTNER.—This communication recalls Lamb's description of the "origin of roast pig" and the great discovery that it was not necessary to burn down the house to obtain roast pork. The secret of the success of mercurial inunctions and pillow-slip and other methods of mercurial treatment is being ascribed more and more to the inhalation of the fumes and Kutner now discards everything except the direct inhalation of the mercury, which is rubbed into a specially constructed, air-tight box, heated or not, and the subject merely inhales the fumes through a tube and mask for half an hour a day. No symptoms of intoxication have been observed in any of the numerous patients thus successfully treated, and the inhaled mercury is found in the urine the same as with other methods. The subject is relieved from all the annoyance of frictions, etc., in the intervals, and the amount inhaled can be accurately determined and regulated. No stomatitis occurs from these brief treatments, although, as a precautionary measure, the patients are instructed to afterward gargle with potassium chlorate.

Artificial Production of Gout. H. KIONKA.—Gout in pigs is due to deposits of guanin in the muscles, joints, etc., of the diseased animals, but it is caused in fowls the same as in man, by concretions of uric acid. Gout can also be induced in fowls by the administration of phenol, acetone, sublimate, aloin, oxalic acid and even sugars and chromic acid, and not merely in poultry but in ostriches, hawks and other birds of prey. Kionka has succeeded in inducing gout by feeding fowls exclusively with meat. They seemed to be perfectly healthy for two to five months, when the manifestations of the disease appeared, most prominent in the gradually developing tophi on the joints, and between the tendon sheaths of the legs and feet. Deposits of urates were also found on the serous membranes of the intestines, and uric acid infarcts in the kidneys. The fowls craved lime and ate 10 gm. of powdered egg shells a day, under the influence of which the ammonia in the urine was increased, but the elimination of uric acid decreased 40 to 50 per cent. V. Noorden recommended lime for the uric acid diathesis, three years ago, as he had observed that the elimination of phosphates diminished under it. The fact has also been noted that in human and dog urine, carbamic acid is excreted in large amounts after ingestion of lime. Herxheimer has tabulated tests which show a decrease of 12 to 13 per cent. in the elimination of uric acid when 6 to 21 grams of calcium carbonate are ingested daily.

Centralblatt f. Bakteriologie (Jena), Dec. 23, 1899.

Experimental Yellow Fever. A. BRUSCHETTINI.—The most interesting points, in this report of two years of comprehensive research, are the writer's enthusiasm in respect to the bacillus icteroides as a most extraordinary and extremely pathogenic micro-organism, differing widely from all others, and offering a most fascinating laboratory study of the mechanism of infections of degenerative type and immunization against them; also his statement that he found experimental vaccination much more effective when cultures were used entirely or nearly free from toxin. "The antitoxin in the blood of an already immunized animal is partly destroyed or neutralized by an injection of the toxin, thus diminishing its vaccinating power and it never regains its former intensity, while, on the other hand, the amount of antitoxin is progressively increased with every injection of toxinless cultures." He therefore advocates discarding the toxin in producing vaccin to combat infectious diseases, as Tizzoni has already recommended for tetanus. He mentions that the characteristic "wax seal" appearance, which is lost by passage through rabbits, can be restored by inoculating a dog with the cultures, and that the virulence of the bacillus can be increased by passage through animals. None of his attempts to induce infection *per os* succeeded. He found the immunizing substance chiefly collected in the spleen and liver, and emulsions of these organs protected animals against infection even when the blood had not yet acquired any protecting power. "The facility with which the characteristic symptoms of yellow fever can be induced in all the laboratory animals explains much of the mystery hitherto surrounding this dreaded disease, aside from its importance in the etiology."

Reducing Capacity of Bacteria. F. MUELLER.—The morphology of bacteria is proving less reliable as a means of differentiation than was anticipated, and consequently the physiologic and biologic properties are acquiring new significance. Mueller's study of the reduction process of the bacteria in certain stains shows specific differences with each variety, both quantitative and qualitative, which will aid materially in the differentiation. In selecting stains for the purpose, those whose constitution is known should be preferred: methylene blue, litmus, rosanilin and indigocarmin were used in the tests reported. The reduction occurs outside of the cell body, and is evidently due to the action of a metabolic product excreted by the bacteria, which gradually loses its reducing power, from oxidation. All the bacteria tested, aërobic and anaërobic, have this reducing capacity more or less marked. A number take up the stain so intensely as to be appreciable to the naked eye—seen best on stained, agar-streak culture—but the color-forming bacteria usually do not.

Centralblatt f. Inn. Med. (Leipsic), Nov. 18, 1899, and Jan. 6, 1900.

Anomalies of Body Structure with Cardioptosis. L. FERRANNINI.—Rummo called attention, some time ago, to the primary and usually isolated ptosis of the heart are connected with any dilatation of the organ or mechanical factor, but due exclusively to some essential alteration in its suspending apparatus. This condition is a special localization of the ptosis diathesis, in which a defective development renders the connective tissue less capable of accomplishing its task, and entails severe disturbances from slight causes. Four observations are described in detail, all showing abnormal development affecting the vascular system most prominently, causing in addition to the typical cardioptosis, mitral stenosis and various trophic disturbances.

Influence of Brief Action of Cold on Composition of Blood. E. GRAWITZ.—Not a trace of hemoglobin could be detected in the serum of rabbits dipped into cold water for a few minutes or submitted to other similar tests. But the increased specific gravity of the blood and serum immediately afterward demonstrated that the cold drives the lymph out of the capillaries into the tissues. This change in the currents of the tissues suggests an explanation of the tonic and metabolism-stimulating effect of certain hydrotherapeutic measures. Later, friction and warmth send the lymph back again, shown by the prompt alteration in the concentration of the blood.

Neurologisches Centralblatt (Vienna), Nov. 15, Dec. 15, 1899, and Jan. 1.

Are All Ganglion Cells Directly Connected with Arterial Circulation? A. ADAMKIEWICZ.—The writer has succeeded in establishing that the intervertebral ganglion cells of the brachial plexus are each enclosed in a delicate little capillary which branches from the arterial blood capillaries and enlarges to enclose the cell like a glove, narrowing beyond it and again subsiding into an arterial capillary. These secondary capillaries do not allow the passage of the corpuscular elements. This mechanism has only been established for the ganglion cells mentioned, but Adamkiewicz considers its existence demonstrated for all the ganglia of the brain and cord, by the difference between the results when any non-physiologic substance, distilled water for instance, is applied by instilling it on the exposed brain or even directly on the ganglia. It scarcely disturbs them in their repose (rabbits), but if even 2 to 3 c.c. of the same substance is sent into the cerebrum through the carotis, the ganglia respond violently to the excitation, with nystagmus, disturbances in the respiration and pulse and tetanic convulsions. The only explanation of this difference in the reaction is the assumption that the water comes into more intimate contact with the ganglion cell through the circulation than even by direct external contact.

Dementia Paralytica and Degeneration. P. NAECKE.—It is possible that an endogenous or exogenous intoxication, slow or rapid, may prove to be the basis of all mental disturbances, and not merely of the so-called infectious psychoses, affecting a predisposed brain. Naecke ascribes great importance to heredity in this predisposition of the brain, which may remain latent and not appreciably affect the mental capacity. The probability of these assumptions is apparent even now. One of the preliminary questions is whether all the so-called external and internal causes of mental disease, especially emotional excitement, directly or indirectly convey toxic substances to the brain, which Naecke considers a most important factor in the etiology of paralysis.

Antagonistic Reflex. SCHAEFER.—Perpendicular compression of the middle or upper third of the Achilles tendon causes slight pain and, by shortening the tendon, produces a minimal plantar flexion of the foot and great toe, in normal conditions. But in five cases of severe mental disease Schaefer noted that this compression was quite painful and induced strong contraction of the dorsal flexor digitorum and tibialis anticus, that is, of the antagonists of the tendon. He asks for an explanation of this.

St. Petersburger Medicinische Wochenschrift, Dec. 30, 1899.

Treatment of Pulmonary Tuberculosis in High Altitudes. T. v. PACHT.—The more rarefied the air, the greater the evaporation, and the blood therefore becomes concentrated in proportion as the altitude is higher. This is the cause of the increase in the number of corpuscles, so variously interpreted. A very anemic patient with extremely hydremic blood will find this concentration to one-third or one-half of the total amount of blood most disagreeable, and be unable to bear a high altitude, while in case of moderate anemia the concentration of the blood enables the tissues to be better nourished, and hence improves the general health. Persons with extremely abundant expectoration are also much improved by the decrease in the quantity of the expectorated matters, which also favors the much-needed repose of the lungs. But in those with dry catarrh or ulceration of the larynx, the cough is increased by the dryness; such persons belong in a moist climate. The effusion in pleuritis humida is dried up and absorbed much more rapidly at a high altitude, while the effect in pleuritis sicca is distinctly the reverse; the deeper respiration necessary in the mountain air is even injurious on account of the increased friction of the pleural layers. The article refers to the danger of overexertion in sports in much frequented resorts, and quotes that "Davos looks like a factory town now, with its hundreds of smoking chimneys," while the much vaunted absence of wind in the valley leaves the smoke hanging for days at a time over the place.

Pruritus Vulva.

℞. Menthol ..... gr. xii
Alcohol ..... ʒiss
Aquæ dest. ..... ʒiii
Acidi acetici diluti, q. s., ad ..... ʒi
M. Sig. Apply locally as required.—Cumston: *Med. Record.*

Societies.

Perry County Medical Society.—This Society met at Duncannon, Pa., January 25, and elected the following officers: president, L. M. Shumaker; vice-president, H. D. Reutter; secretary, A. R. Johnston; treasurer, D. B. Milliken.

Ramsey County Medical Society.—The annual session and election of officers was held by this Society, in St. Paul, Minn., January 29. The new officers are: president, G. A. Renz; vice-president, Cornelius Williams; secretary, E. F. Geer; treasurer, Fred Leavitt.

St. Joseph County Medical Society.—The fourteenth annual meeting of this Society was held in South Bend, Ind., January 30. Among others presenting papers were E. W. Andrews, Weller Van Hook, and G. Frank Lydston of Chicago, and L. H. Dunning and F. C. Ferguson, of Indianapolis, Ind.

Denver and Arapahoe Medical Society.—The following named physicians were elected officers of this Society, at its annual meeting, January 9, held in Denver, Colo.: president, C. K. Fleming; vice-president, H. G. Wetherill; treasurer, E. J. Rothwell; financial secretary, G. H. Stover; secretary, C. P. Conroy.

Thirteenth International Medical Congress.—The Secretary-General of the Congress gives notice of the following reductions in rates: 1. All the railway companies of France will grant to the members of the Congress a reduction of 50 per cent. on round trip tickets, as follows: Every member will receive, on application to the Secretary-General, Dr. A. Chauffard, 21, Rue de l'Ecole de Médecine, Paris, a ticket which must be stamped at the railroad station where he enters France, on paying the full price of a single trip to Paris. At Paris the member will have this ticket *viséd* in the office of the Congress, and it will then serve as a return ticket without additional expense. The journey to Paris having been paid entirely, and the return trip being free, there is a 50 per cent. reduction. It goes without saying that in order to secure this, the return trip must be to the same point at which the original fare was paid. 2. The French line—La Compagnie Generale Transatlantique—will allow members of the Congress a reduction of 10 per cent. on tickets from New York City. 3. The Secretary-General has arranged to provide to early applicants a number of lodgings, including light and service, at the rate of five francs a day; and various agencies also advertise reduced rates for lodgings. For further particulars and application blanks for membership, address, Dr. H. B. Jacobs, Secretary, American National Committee, 3 W. Franklin Street, Baltimore, Md.

New York County Medical Association.

Jan. 15, 1900.

DR. THOMAS H. MANLEY presented a case of secondary osteoplasty, a specimen of gangrenous perforation of the sigmoid flexure, and a specimen of very large omental hernia.

DR. F. H. WIGGIN presented a large fibroid uterus, just removed by the intraperitoneal method.

NEW METHOD OF RETROPERITONEAL DRAINAGE OF PYOSALPINX.

DR. LEON F. GARRIGUES read the first paper of the evening, on this title. It included a report of five cases so treated, but the histories were not read. The author is of the opinion that pelvic suppuration should be treated by vaginal drainage, not only because this procedure is almost free from risk, but because convalescence is so very much more rapid after it than where laparotomy has been performed. In addition to the disadvantage of longer convalescence, which oftentimes extends over many months, there is the danger of ventral hernia. He has seen severe hemorrhage follow puncture of the abscess and packing with iodoform gauze, and besides such packing is painful, and by reason of the pressure to which it is subjected, does not drain efficiently.

The technique which he advises for these cases is as follows: An incision is made at the anterior vaginal junction, commencing posterior to a transverse line drawn through the cervical canal on the side corresponding to the pyosalpinx, and following the contour of the cervix for a distance of three-quarters of an inch, passing through the whole thickness of the vaginal wall. With the forefinger, the peritoneum can usually be quite readily stripped off from the uterus, and this should be done until the origin of the Fallopian tube is reached. Having located the most prominent part of the pus tube, an assistant presses downward while the operator pushes a pair of blunt scissors into the pyosalpinx. Having explored the abscess cavity with the finger, and broken down any pockets, a T-shaped rubber drain is inserted. He does not approve of irrigating the cavity at the operation, lest there might be a minute opening present through which infected matter might gain entrance to the peritoneal cavity. Four out of the five cases were operated on in tenement houses, and all five made complete recoveries.

DR. J. RIDDLE GOFFE said that while he is an earnest advocate of the vaginal route for the treatment of pelvic disease, he does not approve of the method advocated by Dr. Garrigues, though he has never personally tested it, nor had an opportunity of listening to a detailed report of the cases presented; but on theoretic grounds he objects to opening up the broad ligament in these cases. This ligament is bountifully supplied with lymphatics, and the danger of infection by so doing seems too great. Another objection is that it does not seem to be capable of effecting a radical cure. The method which he prefers and practices, consists in freely opening Douglas' pouch and making a thorough exploration. He then brings down the uterus and its appendages through an anterior vaginal incision. Where the abscess is large, it is necessary to first puncture and drain.

DR. J. E. JANVRIN also favors the posterior incision and drainage through the cul-de-sac—a method which is not liable to excite peritonitis, and which will, in the majority of cases, effect a cure. Because of the danger of infection in Dr. Garrigues' method, he considers it fully as dangerous as the more usual one of incising the posterior cul-de-sac. From personal observation, he vouches for the good results attainable by Dr. Goffe's method.

DR. H. J. BOLDT said he finds it difficult to understand how the method described in the paper could be employed for cases in which the pyosalpinx is high up in the pelvis, or where there is only a slight enlargement of the tube. He prefers to open the posterior cul-de-sac widely enough to admit his hand. In this way he can satisfy himself that he is really dealing with the tube, and that there are no other pus collections in the pelvis.

DR. GARRIGUES replied that the fact that in all his cases the temperature promptly fell to normal is a sufficient proof that the theoretic danger of infection has been exaggerated. In his own hands this technique has yielded a radical cure. As he has only employed it where the tubes were but slightly enlarged, he could not fully answer one of Dr. Boldt's criticisms.

MANAGEMENT OF HERNIA.

DRS. PARKER SYMS, John F. Erdmann, Henry Roth, Irving Haynes, and William B. Coley presented papers on various phases of strangulated hernia, which appear in THE JOURNAL.

DR. WILLIAM B. DEGARMO spoke of the negligence of many medical practitioners in regard to the proper application of trusses. This was a matter requiring the physician's personal attention. Where a light truss will efficiently support a hernia, no other treatment is required; on the other hand, where it occasionally allows the hernia to escape, or the patient is careless about the use of the truss, operation is demanded. He believes that the operation for radical cure should be done in almost every case of strangulated hernia, and after the patient has worn a bandage for four or five weeks, it is his custom to dismiss him, so great is his confidence in the radical cure. While all surgeons recognize the danger of resorting to taxis, the fact remains that many practitioners continue to employ it before giving their consent to operation. They will succeed more often in reducing the hernia if they will attempt to draw down the hernia farther instead of attempting to push it back.

DR. CHARLES N. DOWD, in the discussion, called attention to the fact that the operation for the relief of a strangulated hernia can be safely done at the extremes of life. He recently operated on a strangulated femoral hernia in a very feeble man of 75 years, with excellent result, and the same was true where he operated on strangulated herniæ in infants of 4 and 6

months of age. This operation is not one from which the general practitioner should shrink in an emergency; it is very simple, the chief point being to remember to cut down to the aponeurosis of the external oblique and divide this above the point of strangulation.

DR. LUCIUS W. HOTCHKISS said that he too had operated successfully for the relief of strangulated hernia in young infants, and also in a woman of 81 years. When the diagnosis is reasonably clear, operation should not be delayed.

Philadelphia Pathological Society.

Jan. 11, 1900.

NEW METHODS OF STAINING THE SPOROZOA OF MALARIAL FEVER.

DR. ALBERT WOLDERT, in a paper on this subject, said that for general work examination of the fresh blood is preferable to the stained methods in examining for the malarial parasite, on account of that method giving better opportunity for studying the general characteristics of the hematozoa. However, the stained methods have their place, because in this way the specimen becomes portable and remains permanent. The stained method requires a very careful technique, and another objection to it is that it frequently requires from fifteen minutes to two hours. A method which will shorten this period has been devised by Futcher and Lazear, of Baltimore, Md. It is a combination of the fixation method of Benario and a stain first employed by Marchoux. Two solutions are required, a fixation and a staining fluid. The first consists of a .25 per cent. solution of formalin in 95 per cent. alcohol; the second of a saturated aqueous solution of thionin (Cogit) in 50 per cent. alcohol—20 c.c. and 2 per cent. aqueous solution of carbolic acid, 100 c.c. The blood specimens are fixed for one minute in the fixation fluid, and afterward stained for fifteen seconds. The whole process can be completed in two minutes and the specimens are permanent. The second stain is one prepared by the speaker in an attempt to make the Prince blood stain. It is a triple stain and solution No. 1 has toluidin blue, gr. xv.; distilled water, ʒiv. Solution No. 2 has acid fuchsin, gr. xv.; distilled water, ʒss. Solution No. 3 is 2 per cent. aqueous solution of eosin. The specimens are fixed by heat and stained for five minutes. By the latter the organisms are easier to find than in the former method.

Crescent organisms were exhibited, which had been found on the tenth day and after 90 grains of quinin had been given.

DR. A. O. J. KELLY said he had used the first method and found it a useful and easy one.

DR. J. A. SCOTT does not believe that any quick method of staining is needed, since it is so easy to study the fresh specimen of blood.

STATUS LYMPHATICUS WITH GASTRIC TETANY.

DR. ALFRED J. HAND presented specimens from a case of this condition in a child who had manifested symptoms of tetany with symptoms also indicating involvement of the higher nerve centers. Stroking either side of the face produced contraction. Coughing and dyspnea were also present. Fever was absent until shortly before death. At the autopsy the thymus gland was found to weigh 10 grams. The heart was normal. the liver suggested amyloid degeneration and weighed 232 grams. There was a supernumerary spleen present. The pancreas was normal, stomach walls thickened, and there was hyperplasia of Peyer's patches.

DR. SIMON FLEXNER said that, in an epidemic of diphtheria, he has noted the enlarged thymus, and hyperplasia of the lymph tissue of the intestines.

SYPHILIS OF SPINAL CORD.

DR. JOSEPH SAILER presented a specimen from a man who gave a history of having been wounded by poisonous arrows thrown by uncivilized natives in South America. He said he was wounded in ninety places, and at each point a chancre (?) developed. A scar had also been present on the penis. Section of the spinal cord was shown, in which could be seen two large thrombi.

PULMONARY ACTINOMYCOSIS.

DR. SIMON FLEXNER presented a specimen of lung showing actinomycosis, from a woman of middle age, who had suffered from cough and pain in the chest. A swelling subsequently developed in the chest, and ruptured, leaving a sinus which communicated with the lung. In the pus actinomyces granules were found. At the autopsy the lower lobes of both lungs were found involved. Section showed consolidation of the tissues, with here and there yellowish masses, surrounded by overgrowth of connective tissue. Microscopic sections showed the micro-organism.

ADDISON'S DISEASE.

DR. FREDERICK A. PACKARD presented specimens of suprarenal glands taken from a patient with Addison's disease. There had been several brownish spots in the region of the right nipple. Two features which led to the diagnosis were the low-tension pulse and gradual failing in general health. In the right suprarenal gland tuberculous nodules were found. The left was also diseased.

Jan. 25, 1900.

TYPHOID FEVER SYMPOSIUM.

DR. A. C. ABBOTT reviewed the epidemiology of the disease. While typhoid fever has always been regarded as an autumnal affection, there are certain years in which the number of cases has been much higher in the spring than in the fall. This is particularly noticeable in the records of Philadelphia for last year. One interesting feature noticed in the epidemic of typhoid fever here last year is that the mortality in different wards was two or three times what it was in others. In those where the mortality was highest, the residents had been furnished with water from the Queen Lane reservoir, which it is believed had been contaminated.

DR. J. H. MUSSER spoke of the value of clinical laboratory methods in diagnosis. One to-day recognizes the value of laboratory facilities as an aid to diagnosis, particularly of the infectious diseases. While an examination of the excretions in typhoid might be of some aid, yet such results obtained would not compare with the positive evidence furnished by the Widal reaction. It has been found that where careful technique has been followed in making this test, it has proven correct in over 98 per cent. of the cases of typhoid. Some inaccuracies doubtless occurred from the fact that some observers diluted the blood too much, thus furnishing ground for failure in some cases. The reaction in this disease may at times be intermittent, or delayed; yet it should be found in all cases if persistent efforts are made. The reaction is of the greatest importance in clearing up the diagnosis of an obscure nature. One precaution is that the reaction may be obtained in cases in which the patient previously had an attack of enteric fever, thus leading to an error in diagnosis. An examination of the blood is important. As is known, the leucocytes are not increased, and if they should be, that might indicate a septic process or an impending perforation of the bowel. Their increase after perforation chiefly affects the polynuclear forms. The diazo reaction is important and has been found in 90 per cent. of the cases. The presence of this reaction during the progress of the disease, however, limits the usefulness of this test.

DR. A. O. J. KELLY briefly reviewed the statistics of the German Hospital. During the past two years the dried blood has always been used in making the test; 1002 tests were made in 557 cases of typhoid. In some instances the wet method was tried as a confirmatory measure. The dilutions were 1 to 10 or 1 to 15 in fresh bouillon cultures. By the dry method a positive Widal reaction was not only obtained in typhoid fever, but also in cases of tuberculosis, abscesses, rheumatism, appendicitis and other diseases. After a very thorough trial he is convinced that the dry method is not so accurate as the wet.

DR. A. C. ABBOTT stated that at the city laboratory the dry method has been used as a routine measure, the wet in some instances. By the dry, 3 per cent. of errors occurred.

DR. H. W. CATTELL gave the statistics of the Woman's Hospital. The percentages in which the positive reaction was obtained was quite high. In his opinion the diazo reaction is important in clearing up cases of summer diarrhea in children, many of which are undoubtedly typhoid. Dimmel has spoken of a method of differentiating the typhoid bacillus from the colon. This consists in growing the micro-organism in a bouillon culture with the liver, and afterward using the fermentation and reaction test with litmus paper. If the litmus turns red, it is an indication that the organism was that of typhoid.

DR. J. MCFARLAND spoke of the cases in which the reaction was obtained at the Medico-Chirurgical College. He recognizes

element is always present. Tschisch speaks of *coitus reservatus* that the personal equation, by many observers, may vary considerably in obtaining the Widal reaction by the dry method.

DR. J. D. STEELE spoke of the cases which occurred at the Presbyterian Hospital. His experience with the dry method agrees with that of Dr. Kelly, in that the dry does not seem to be as reliable as the wet. His dilutions were 1 to 10 and 1 to 20. The cultures were used from twenty-four to thirty hours. In obtaining the Widal reaction he noticed one avenue which may lead to failure, in that in most specimens, near the edge of the hanging drop, the bacilli are seen to become non-motile or give a picture of clumping. He has not called the reaction positive unless clumping was observed some distance away from the edge of the cover-slip. Regarding the diazo reaction, he has made examination of the urine and believes its persistence is an indication that a relapse is imminent or that the convalescence will be delayed. Ordinarily it would disappear in the latter weeks of the disease.

DR. SIMON FLEXNER spoke of the atypical lesions found in enteric fever, and of typhoid septicemia. As is known, many cases of typhoid have been reported in which no intestinal lesion of the bowel occurred, and yet a positive Widal reaction was obtained. In these the micro-organisms were discovered in the liver, spleen, lymphatic glands and bone marrow. Through the blood their distribution was made possible, yet it is exceptional to find the bacillus in the circulating medium. a true typhoid septicemia. While in Manila, he learned that the intestinal lesions in typhoid were very slight. In fact, many could not be diagnosed at the autopsy table, and yet the micro-organisms might be found in the blood.

DR. T. G. ASHTON believes that if proper care were exercised many epidemics of typhoid fever would be prevented. Proper care means thorough sterilization of the feces, urine, bed linen, and care of the hands in those that attend the sick. The modes of infection were detailed. In order to disinfect the stools it is advised to use four ounces of chlorid of lime to one gallon of water mixed thoroughly with the stool and allowed to stand for one hour; 10 per cent. carbolic acid might be used, as also bichlorid of mercury, 1 to 500. The latter solution should be acidulated and allowed to stand for a longer time. To sterilize the bed linen, 3 per cent. carbolic acid solution will do. It should be immersed in this solution and then boiled.

DR. J. MCFARLAND spoke of the present outlook of the serum treatment. He thoroughly reviewed the literature on the subject. In trying to manufacture artificial antitoxin from the horse, by first injecting pure and afterward sterile cultures, he was not successful. One point should be remembered in this connection and that is, any remedy which is recommended as an antitoxin in typhoid should also be antimicrobic in action.

Chicago Medical Society.

Jan. 24, 1900.

OCULAR THERAPEUTICS FOR THE GENERAL PRACTITIONER.

DR. ALBERT B. HALE read a paper on this topic, and said: New drugs from the chemist's laboratory are constantly being added to the physician's table, and some deserve to be retained both by specialists and general practitioners. Among drugs useful in ophthalmic therapeutics we have, of the newer ones, four that are particularly valuable.

Holocain.—This is a synthetic product, related to phenacetin, so that its name is merely imitative of cocain, which it may in many cases supplant. Its salt, the hydrochlorid, is soluble to about 2.5 per cent. in cold water, and should be applied in 1 per cent. aqueous solution. It has particular advantages for the general practitioner. In removing foreign bodies from the conjunctiva or cornea, for instance, it is better than cocain, as it acts quicker, causes little pain, does not dilate the pupil, in temporary use affects corneal epithelium less, produces no ischemia, to be followed by hyperemia. It is somewhat antiseptic—enough to keep itself, at least—and can be sterilized by boiling, with no disturbance of chemical composition. It must not be injected hypodermically, nor be applied to other than ocular mucous membranes, as it is systemically poisonous. It must be prepared and kept in porcelain, not glass, as the alkali of the glass influences it.

Euphthalmin.—Of the three effects of local applications to the eye—omitting cautery or astringency—anesthesia, mydriasis, cycloplegia, many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a 5 to 10 per cent. watery solution. Here the author gave tables and cited authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupil for study of lens and fundus. His conclusions were: 1. No subjective symptoms are produced. 2. Only mydriasis is caused, of short duration, beginning in thirty minutes. 3. The effects are shown earlier in youth than age. 4. Ocular tension is not increased. 5. No hyperemia nor ischemia of the conjunctiva is produced, and the corneal epithelium is unaffected. 6. Accommodation is practically unaffected. 7. The normal pupil is soon restored. 8. It is apparently non-poisonous.

Protargol.—This he considers better than any inorganic silver salt yet used. It is proteid compound, containing about 8 per cent. of silver, and its bactericidal power as great as that of silver nitrate, while it penetrates deeper; is much less painful, not so dangerous to the epithelium, and can be used much more frequently; it is not so affected by light, and its brown color is an advantage for local application. Perhaps the silver nitrate is better for direct action on the gonococcus, but for all other inflammations or irritations of ocular membranes, protargol, in 5 to 10 per cent. watery solution, is much better for the general practitioner.

Extract of Suprerenal Capsule.—Abel (Johns Hopkins) was quoted with reference to epinephrin. Bates' experiments were confirmed, showing that it is astringent more than hemostatic, acting through the uninjured vessel wall. It is useful for cosmetic purposes, to blanch a red eye, to assist in prolonging anesthesia with cocain or holocain, to aid other drugs in treating inflammations of the conjunctiva. It is an unstable powder, spoils easily in the presence of water, and must therefore be mixed fresh for use, as it has no well-defined solubility.

PREVENTION OF TUBERCULOSIS.

DR. CHAS. J. WHALEN presented a paper on this subject; it will appear in THE JOURNAL.

TREATMENT OF FRACTURES OF EXTREMITIES BY MEANS OF SCHOENBORN-BEELE SPLINT.

DR. EDWARD H. LEE followed with a paper on this topic. He gave a detailed description of this splint, and demonstrated its usefulness on a patient. Among the many advantages which it offers are that it can be applied immediately; it is light and neat; there is no necessity of padding with cotton; it is not apt to produce decubitus; it may be removed and put back in place in a very short time, and the cost of the material is moderate. He knows of no other that will adapt itself so perfectly to the form of the limb as this one. In 1891, during his term of service as interne under Professor Schoenborn at the Julius Hospital in Wurzburg, Germany, he had the opportunity of the splint. For the past seven years he has used this method in the Cook County Hospital, the Alexian Brothers' Hospital, and in private practice in a great number of cases. It has been used extensively by a number of the internes of the Cook County Hospital, and by some of the members of the attending staff, and the results have been excellent. Dr. Lee decsribed the application of the splint to various fractures.

NATURE OF NEURASTHENIA; A STUDY OF RECENT LITERATURE.

DR. R. M. LADOVA read a paper on this subject, saying that this disease is a general chronic functional neurosis, a state of continuous exhaustion and irritability of the nervous system. The predisposing causes are heredity, either neuropathic or arthritic. The determining causes are trauma, anemia, toxemia, overwork, worry and anger, exhausting chronic and acute diseases, misfortune, alcoholism, mental shock, violent emotions, crisis of puberty, sexual and other excesses and platonic love. Where heredity is present, the trouble begins early in life and runs a more severe course. Attention was directed to the two hundred observations made by Bidon, who holds that neurasthenia is etiologically allied to degeneracy. A study of the posterity of neurasthenics strongly points toward this view. Grandholm regards the too extensive social intercourse of the world as the principal cause of neurasthenia. Gattel has collected one hundred observations and claims that the sexual

as a potent cause, and Pleury of platonic love. Unrequited love and otherwise unfortunate love affairs may be safely added to the list. Biernacki found that fresh blood of neurasthenics coagulated slowly with a small amount of fibrin; the blood is otherwise normal. This sedimentation anomaly is present in most patients, and depends on the small amount of fibrinogen; its constancy speaks for its primary nature. Charcot states that gout, diabetes, obesity and chronic rheumatism, on account of their frequency in neurasthenic families, point to a disturbance of the processes of oxidation. Functional neuroses follow psychic excitement, which speak little for their primary nature. None of the theories that have been so far advanced to explain Beard's disease have been satisfactory. The toxic origin of neurasthenia can not be denied. Priantaphykides reports fifty undoubted cases of malaria where neurasthenia is the only symptom. Grave cases follow light attacks of influenza. Is fatigue a phenomenon primarily dynamic or toxic? It is possible that the toxin only acts as an irritant to the nerve-cell, exciting it to over-activity. Fatigue and chemical phenomena accompanying it are in proportion to the amount of nerve energy the muscle receives from its centers. A study of walking and bicycling riding points to it. In riding or walking up hill, where volition works against the force of gravity, fatigue is more evident. Functional neuroses are probably not primary diseases of the central nervous system, but a secondary symptom-complex in consequence of the activity of products of primary oxidation disturbance of the nervous system.

Lehigh Valley Medical Association.

Mid-Winter Session, Allentown, Pa., Jan. 25, 1900.

OBSTETRICS IN LAST HALF-CENTURY.

DR. A. H. HALBERSTADT, Pottsville, read a paper on "Some Reminiscences of the Last Half-Century," alluding to the changes since the time of Meigs, Hodge and others in the practice of obstetrics. He thinks the pre-eminent standing of these gentlemen elevated the chairs of obstetrics in the colleges, their reputation being national; the end of the greatest epoch in this art ended with their deaths. The regeneration of gynecology by Sims led a stampede from obstetrics that still continues. Every manipulation in obstetrics is surgical and no necessity exists for the division of labor based on the use of the knife. The principal advances are asepsis and the use of anesthesia: the former, except in more intelligent detail, is not new; the latter is the greatest boon to parturient women.

ELECTRICITY INTERNALLY TO THE STOMACH.

DR. BOARDMAN REED, Philadelphia, read a paper on this topic. He considers this easy of employment, and exhibited the apparatus which he employed. He has obtained excellent results in cases otherwise intractable. Certain patients require stimulation, and thus he obtains it. Much is necessary in the way of diet and care of the general system.

THE PHYSICIAN AND THE LABORATORY.

DR. C. KNAPP, Wyoming, read a paper on the "Value of the Laboratory to the Physician." He pointed out that it greatly aids in diagnosis and proper treatment of disease, and instanced the X-ray, pathology, bacteria culture, microscopic work, histology, photography. Observation now takes the place of theory, thus leaving less to empiricism in practice. Every practitioner should be thus armed, and his offices should be fitted to enable him to do the work promptly and satisfactorily. He described the proper fitting of a laboratory, and urged the young physician to work earnestly, carefully and make himself sure as to what he obtained. Above all, the note-book should have a place and record everything observed.

QUADRUPLE AMPUTATIONS.

DR. J. C. BIDDLE, Fountain Spring, read a paper on "Quadruple Amputations." He traced the history of surgery from the earliest times, showing the great advances at present, due to the knowledge of the use of anesthesia, asepsis, the ligature, and prevention of hemorrhage. We must not be in too great haste to operate, nor object to do so when it is necessary. In amputations, we must have enough skin, muscle and fascia to cover the bone, thus preventing retraction or conical stump. He has performed one quadruple amputation, removing both feet and both hands in the case of a man who had lain all night deep in the snow till the frost had caused the death of these members; this man made a good recovery. But one other such case is on record. He does not favor the drainage-tube, and regards it very important that we should make early arrangements for the wearing of an artificial limb, and not wait months or even a year, thus causing the patient to be awkward in its use. He prefers chloroform, and for ligatures the silk-worm gut.

DR. W. J. HEARN, Philadelphia, agreed with the speaker, but prefers the drainage-tube in amputations, as indispensable.

DR. W. L. ESTES, Bethlehem, said modern methods make conservation more advisable than formerly, so it is important, if there is the least doubt, to employ careful hemostatic and antiseptic dressing and wait hours, if best, before amputating; there is no need, in the majority of cases, for immediate operation. During the early stages of acute anemia, ordinarily called shock, we should not operate. Let the heart regain its tone somewhat. He uses tourniquets for bleeding, and places them on the crushed surfaces or just above the torn skin. Drainage is imperatively necessary, especially for infected wounds.

DR. J. B. ROBERTS, Philadelphia, called attention to the necessity of applying means to check hemorrhage at the locality injured, not far above, as is often done by the improperly taught policemen, who cause much damage by the tight bands which they apply far above on the injured limb. He believes it is a mistake to operate in a hurry. There is no need of it. He stops hemorrhage, obtains asepsis, and then waits for reaction.

DR. H. AUGUSTUS WILSON, Philadelphia, directed attention to the need of the early use of artificial limbs, not delaying for months, which often causes great awkwardness and difficulty in their use. Also, this delay causes wasting by non-use of the limb, and pain when the artificial limb is placed. Surgeons must prescribe these limbs with as much care as they should do everything else.

Toronto Clinical Society.

Stated Meeting, Toronto, Ont., Jan. 4, 1900.

KNITTING NEEDLE IN PELVIS.

Dr. George A. Peters showed one-half of a knitting needle which he had extracted from the pelvic cavity of a very stout woman. The patient had sat down upon her knitting, one needle passing into the buttock half its length and breaking off. In its passage into the right buttock it had grazed the tuber ischii of that side. On first examination the needle could not be felt, but a week later the surgeon examined vaginally and found the foreign body on the lateral plane of the pelvis lying on the tuber ischii. It was removed with a pair of forceps through a vaginal incision.

SYPHILITIC NECROSIS OF CRANIUM.

Dr. William Oldright showed a man, aged 54 years, with a large syphilitic ulceration on the vertex about four inches in diameter and of irregular outline. Twenty-five years ago the man had become syphilized and at that time was very much addicted to alcohol. At the onset of the present lesion he suffered from headache, but no other symptom. About two years ago he had a fall and cut the scalp, which never healed very well; and in August, 1898, it commenced to discharge. By September, 1899, there was a large ulceration and the bone beneath was corrugated and black. Pulsation from the brain was discernible through the pus. Operation was performed late in September, 1899, cutting through both tables, 2 by 2½ inches having been removed. This was under anesthesia, but since that time portions have been removed without it, the only discomfort recorded being some buzzing in the ears. At first the patient was put on iodid of potash, 10 gr. three times a day gradually increased until at the present time he is taking 35 gr. three times a day. Treatment is suspended at intervals of two weeks when the bichlorid is administered.

CARDIAC ANEURYSM.

Dr. W. B. Thistle presented a specimen, with the history of the case, from a married woman, aged 32 years, who had never been pregnant, nor syphilized, although the husband was drunken and worthless. She was admitted to the hospital with weakness, shortness of breath, and marked pallor, some edema below the eyes; pulse rapid but regular. Examination of the heart revealed a double aortic murmur traceable up into the neck and down along the sternum. Water hammer pulse was

very distinct, also throbbing of the great vessels of the neck. There was also capillary pulsation very distinctly seen in the patient's finger nails. The apex was displaced somewhat to the left. Later on there appeared a systolic murmur at the apex, traceable to the left, and still later a presystolic one accompanied by a very pronounced thrill; also a pericardial friction sound. First examination of the urine revealed no albumin, but later on it was found in abundance. The diagnosis was malignant endocarditis. Death occurred from uremic convulsions, after seven weeks in the hospital. At the autopsy, the aneurysm was found to be in the ventricular septum, extending up into the auricular, so that it was partly in both septa. It was two inches in length and an inch in breadth. The clot turned out left a smooth wall with calcareous deposit about the opening. The mitral valve showed nothing abnormal, contrary to expectations.

ENDOCARDITIS OF RIGHT HEART.

DR. W. B. THISTLE also showed this specimen. The case was one of chronic endocarditis, occurring in a rheumatic girl, aged 12 years. It was of interest because all four valves showed marked changes; very pronounced mitral and just as pronounced tricupsid; with distinct vegetations on the aortic and also on the pulmonary valve; and, particularly interesting when the specimen was recent, there seemed to be a little tuft on each segment of the pulmonary valve, very distinct. This is an extremely rare condition. Some authors say you never get endocarditis affecting the pulmonary valve.

TUBERCULAR TESTICLE.

DR. H. A. BRUCE showed this specimen, the condition beginning in the epididymis, with a sinus opening through the scrotum, discharging pus. The patient was a young married man of 26 years, with some enlargement of both testicles for about a year, although the sinus only existed about four weeks. He also had one on the other side. The left one led to the globus major and the right to the globus minor of the corresponding side. The disease was in both testicles. Examination per rectum showed the seminal vesicle of the left side enlarged. The left testicle was removed entire, and as the patient was particularly anxious that some portion of one or the other be left, only the vas and epididymis of the right were removed. Later on this portion will have to be removed.

EXTRAORDINARY CASE OF CANCER.

DR. WM. BRITTON related the history of this case and Dr. Anderson described the pathologic specimen, from a corpulent woman of 57 years. She first came under Dr. Britton's care in July, 1899, with edema of the left ankle and a portion of the leg as far as the calf. In the absence of local causes for this, pressure was suspected higher up and a vaginal examination revealed a hard nodular mass completely filling the pelvis. A portion of the uterus could not be made out at all, nor either ovary or tube. With the finger in the rectum the tumor could be pressed forward so that the intestine was patent to a certain extent. An exploratory incision was performed and a large amount of ascitic fluid spouted out; the omentum was thickened and very much congested. The tumor was adherent in many places. As it was not thought advisable to proceed any further, the wound was stitched up. Five days later oozing of ascitic fluid began from the upper part of the incision and from the stitch openings. This continued about two weeks, when healing took place by granulation. During the last week of life vomiting was almost incessant. At the autopsy it was found that the tumor had nothing to do with the uterus, but arose from the left ovary. The whole peritoneum, both parietal and that covering the viscera, was studded with little elevations about the size of a millet seed, covering the broad ligaments, the whole surface of the tumor superiorly, and every portion of the peritoneum. They were most numerous over the stomach, mesentery, and colon. In front of the pylorus, there was a great deal of thickening of the peritoneum, while posterior to it there was a nodule the size of a walnut, coarse and grayish in structure, having the appearance of scirrhous cancer. Macroscopically the condition was thought to be due to tuberculosis, but on examination with the microscope it turned out to be a papillomatous cyst of the ovary, the condition being shown microscopically in both ovaries.

ECLAMPSIA.

DR. K. MCILWRAITH reported two cases of eclampsia, in primiparæ, aged 19 and 24 years respectively, in whom treatment by morphia, calomel and salines proved effectual.

DR. W. H. PEPLER lauded veratrum viride, which had proved an excellent remedy in his hands, and condemned pilocarpin, as death had resulted in the only case in which he employed it.

DR. WM. BRITTON thought that venesection should not be overlooked in sthenic cases.

Cincinnati Academy of Medicine.

Jan. 15, 1900.

FRACTURE AT BASE OF SKULL; RUPTURE OF MIDDLE MENINGEAL ARTERY; RECOVERY.

DR. S. P. KRAMER presented a patient, first seen on Nov. 3, 1899, a few hours after he had fallen down a flight of iron steps. He was semicomatose, with slow pulse, and semiparesis of the left side, especially of the arm and leg. The tongue was deviated toward the left side. The pupils were sluggish, with no difference in size. He did not respond to sound. In addition to this there were hemorrhages into the conjunctivæ, and also from both nostrils, which increased in the following twenty-four hours, and were considerable in quantity. There was also hemorrhage from the ear. The eyes were very much infiltrated. A diagnosis of fracture of the base of the skull was made, together with rupture of the middle meningeal artery, chiefly on account of the paresis. On November 5 the skull was laid bare and a badly comminuted fracture found, involving the squamous portion of the temporal bone, also the parietal. A rupture of the middle meningeal artery was also discovered. Just above the dura was a large clot of blood. Opposite this the dura was cut and torn, and from the aperture a small portion of the cortical substance was lost. After everything had been thoroughly cleansed, the dura was sutured and a drain inserted. On the day after the operation he had an attack of Jacksonian epilepsy, which affected the left eye, particularly the muscles of the neck, face and eyes. On the day following he had another similar attack. He came to the conclusion that these were due to iodoform poisoning, as he had used an iodoform gauze drain, that was discontinued, and a plain gauze one substituted. No other attacks came on. The recovery from that time was interrupted. There was still, as shown by Dr. Kramer, a small stitch-hole abscess in the scalp, and there is also now remaining a little deviation of the tongue to the left.

AORTIC DISEASE COMPLICATING GONORRHEA.

DR. GILBERT L. BAILEY presented a patient who had an attack of gonorrhea seven years ago. This was followed by a stricture of the urethra, which stricture was cut. Following this he had a lymphangitis involving the left leg, and he has suffered from this condition ever since. He has also suffered from phlebitis. The left leg was larger than the right. He has an aortic murmur due to an endocarditis occurring at the time of the attack, also probably of gonorrheal origin. There is considerable hyperplasia of the subcutaneous connective tissue, resulting in great thickening of the limb.

LOCOMOTOR ATAXIA: ETIOLOGY.

DR. D. I. WOLFSTEIN, in a paper on this topic, gave an exhaustive review of all the causes that have been believed to have caused this disease, his own personal opinion inclining him to the view that syphilis is not so important as writers have given us reason to believe.

DR. PHILIP ZENNER upheld the view of previous syphilis. He said that it could not be borne too strongly in mind that syphilis is often introduced into the system through unknown channels and not recognized at the time by either patient or physician. Certainly lesions of syphilis have been found when no history of syphilis could ever be obtained. Not infrequently there is great difficulty in obtaining a history of the disease even when the lesions are typical. He mentioned several cases in support of this, that had come to his attention very recently. A patient had been sent to him by his family physician. Examination revealed locomotor ataxia, but no marks of previous syphilis could be found, even after the closest examination, and the patient absolutely denied infection. He saw the family physician the next day and was informed that he, the family physician, had treated the man for constitutional syphilis, his wife for constitutional syphilis; that the latter had had a number of abortions, and that all the children who had come into the world had died of hereditary syphilis. Had he not seen

the family physician he would have entered the case on his books as one of locomotor ataxia without previous syphilis.

A few months ago he saw a woman with paresis. He sent for her husband and inquired if he had ever had syphilis, but it was absolutely denied. The man, on leaving the office, casually announced that he was going to see his oculist. Calling up the latter he found that the husband was suffering from atrophy of the optic nerve. On inquiring from the family physician he found that the latter had treated the man for constitutional syphilis. Since that time the man has developed other symptoms of tabes.

In another case of a woman with locomotor ataxia, he sent for the husband and inquired for syphilis. Here it was also denied. He learned from the wife that she had had many miscarriages, and that a few months after marriage she had developed an eruption covering the body. Her husband has since developed paresis.

Many other similar cases have occurred in his practice, and he always expects to find syphilis in locomotor ataxia, and is not very often disappointed.

DR. F. W. LANGDON said that while he does not believe that syphilis is always the cause of tabes, he believes it is a very important antecedent in very many cases. He has had a number of cases of tabes in which no syphilis has been present. A very prominent etiologic factor is the strain put on the sensory neurons. The more highly organized the individual or race, the more delicate the sensory system and the more liable the latter is to give way under strain. The essayist mentioned how uncommon tabes is among the lower races of man, though syphilis is far more common among them than in civilized communities. It would seem from this one point alone that there is something else lacking as an underlying factor, and he is inclined to put it to this strain on a sensory mechanism, already overly delicate. He does not regard it as a great mystery that, with the progress of atrophy of the optic nerve, the disease tabes is frequently checked. With the progress of optic atrophy, man is necessarily compelled to be less and less active, and he may lead an almost vegetative existence. In this way the strain is taken off the sensory neurons in general, and that, in his judgment, is responsible for the cessation of the progress of the disease. Antisyphilitic treatment, while often advocated in tabes, in most cases, so far from doing good, caused actual harm; for tabes is not a gummatous disease.

DR. JOSEPH EICHBERG said that, in reference to the causation of locomotor ataxia, the neuron theory seems to be plausible, because the changes which take place in the body of the nerve-cell show that degeneration frequently occurs from over-stimulation of the neuron. The fact that Fournier, in 5000 cases of syphilis, was able to find 11 per cent. with locomotor ataxia, is an argument that does not admit of much discussion. It can not be said that when 11 per cent. of 5000 patients with syphilis have tabes, these are accidental cases, nor will it do, on the other hand, to say that tabes is always dependent on syphilis. The same sort of reasoning will apply to every infectious disease. It does not follow, because out of a number of individuals only a limited number show the infection, that the reputed cause of the disease is not operative in the manner stated. The fact that an individual may have had locomotor ataxia and have subsequently acquired a syphilitic sore does not disprove the fact that he had a primary sore before the tabes developed, because reinfection is not an unknown thing in the history of that disease. He believes that the whole pathology of the disease is as yet in chaos; while the lesion is known, the existence of the neuron and its liability to undergo degenerative changes, the result of nutritional disturbances, is indisputable, though the exact manner in which these changes are brought about is purely speculative.

DR. J. W. ROWE believes that the theory of over-stimulation of the neuron, followed by exhaustion, fits well with the etiologic features named: that this exhaustion can be produced by excesses in alcohol or in venery, from overwork, or from the presence of an exhausting disease such as syphilis. In practical medicine we are accustomed to at least confirm our diagnosis from the effects of our therapeutics, as for instance the results of iodid of potassium in syphilis and quinin in malaria: the best neurologists in the country admit that the one therapeutic measure which has any possible chance of staying the progress of tabes is absolute, unqualified rest. By this latter method of treatment it might be possible to confirm the idea that exhaustion is the cause of tabes.

OCULAR SYMPTOMS OF TABES.

DR. LOUIS STRICKER read a paper on this subject. He called attention to the variety of symptoms on the part of the ocular apparatus that may be present in this disease: the Argyll-Robertson pupil, paralysis of the extrinsic muscles attended with strabismus and ptosis, and lastly the peculiar primary atrophy of the optic nerve, which latter, when occurring early in the disease, is curiously enough frequently followed by a cessation in the progress of the tabes.

Chicago Laryngological and Climatological Society.

Dec. 29, 1899.

HOME TREATMENT OF CONSUMPTION.

DR. JOHN A. ROBISON read a paper on this subject, and in it arraigned the profession for neglecting to place their home patients under the proper conditions for cure. He outlined the home treatment to consist essentially of the open-air method, and a minute supervision of the patient's daily hygienic and dietetic habits.

DR. O. T. FREER said that exercise, when fever exists, will increase this, and that the rest treatment is then indicated. The fever is not only due to the absorption of tubercle toxins, but to pneumonic and bronchitic inflammations. It is better to give less food than more than the stomach can take care of, as these patients are very apt to have indigestion. It is especially unwise to give fluid fats, although solid fats are indicated, as the muscles waste less than the fat of the body, but fluid ones, such as cod-liver oil, increase indigestion, perhaps by covering the solid particles of food with an oily coating. Of the fluid fats cream is the best. It is now the fashion to prescribe milk generously, but he does not think it wise to overdo this. He believes a dry diet is preferable. The fresh-air treatment is a matter of great importance, as it means the absence of bacteria; the air of rooms has more bacteria than the air of the streets.

DR. EDWIN KLEBS said drug and fat treatments come and go, but the individualizing of cases is neglected. The paper impressed him with the fact that he does not make a difference in the treatment of different cases. There is an enormous difference in the indications for the treatment of various patients. The fevers differ; the capacity for exercise differs. Dr. Freer spoke of putting the patient to bed. There has been a great controversy on the other side of the water on the rest and exercise question, and the war has been bitter. Dr. Klebs, from four years' sanitarium practice abroad and home, is of the opinion that patients do better when you can keep them out of bed, keeping the windows open when they are bed-ridden. The fever can be reduced and the psychic effect is good.

DR. J. A. ROBISON recommended that the windows of the bedroom be kept open, but he went a step further, and would have some patients practically sleep out of doors without disastrous results. They can build little balconies and sit wrapped up in steamer chairs, kept warm with hot water-bottles for seven hours a day with good results, the patients being improved but not cured. We can not send many patients away, and sometimes it is not desirable. When we keep them at home we know what they are doing. The dietetic and hydrotherapeutic treatments seem simple, but are hard to put into practice with home patients.

DR. KLEBS does not agree with Dr. Robison that the patients need not be seen oftener than once a week, for it is better to keep in contact with them. He has followed in this method a plan which works well in the city: He has a nurse trained in dietetics and hydrotherapy, who visits the patient and sees that the instructions are carried out. They get the patients to work, and keep them cheered up, which is very important.

DR. W. E. CASSELBERRY said that modern sanitarians consider fever as a prohibitive of exercise, and yet western experience opposes the rest treatment. He has seen detrimental effects follow exercise at a temperature from 99 to 101.5 F. Exercise increases the temperature from .5 to .4 and .6 of a degree, but this does no harm. He is not in favor of putting the patient to bed: the mental effect is bad. He has not seen any mention

made of walking as an exercise, which is a very valuable form and may be called the poor man's exercise; it is easily regulated, and the amount should be graduated, commencing with short walks and increasing their length gradually until the patient walks two or three miles a day; while walking he should take moderate inspiratory exercise, holding the breath for several steps. It is a great mistake to tell such patients to take a full bath; as many of them do not know what that means. He has them stand in a bathtub filled with water at a temperature of 50 to 60 F., when robust; if not robust he has them commence at a higher temperature, 70 to 80 F., and gradually reduce it. The temperature of the bath-room should not be less than 70 to 80 F. The bath should not last over thirty seconds, the patient standing in the tub and rubbing the water over himself quietly, following this with a brisk rubbing with a crash towel, the friction and motion having a stimulating and tonic effect.

In regard to feeding, he raised the question as to the use of alcohol—not as a food but as a stomachic; as an appetizer before meals. He thinks most patients can digest more food than their desire for food tempts them to take, unless it is in the advanced cases; and as a tonic he is accustomed to allow them wine or beer with their meals. Consumptives should never wear heavy underwear. Too heavy is debilitating, and provocative of catching cold.

DR. J. A. ROBISON, in closing the discussion, said that his paper was merely suggestive, but he hoped the profession would adopt a more systematic method of home treatment.

CLIMATIC TREATMENT OF TUBERCULAR LARYNGITIS.

DR. E. F. INGALS opened the discussion on this topic by saying the climatic treatment has not been as satisfactory as in pulmonary tuberculosis. He has often thought it necessary to restrain patients, with tubercular laryngitis, in their journeyings. He has seen some who were injured by sojourning in high altitudes, but others who were not, nor by hot or dry or dusty climates. In fact, some seemed to improve, but he believes the improvement was due to a betterment in the general condition of the patient. As a rule he advises patients to keep away from the high altitudes, and urges the low ones, preferably the warm and dry. He would not send cases of tubercular laryngitis to Arizona, as it is too dusty. They are better in the mild climate of the South than the vigorous one of the North. Some would be better in a warm, damp climate. While a change of climate in the early stage often gives improvement, he believes it is generally due to that of the lung troubles.

DR. W. E. CASSELBERY said his experience was confined principally to nine years spent in the Rocky Mountains, from Las Vegas, Albuquerque, Phoenix, Cheyenne and the borders of Colorado. The altitude is high, the climate dry, with abundance of sunshine and ozone. The sun is hotter here on account of the rarity of the atmosphere, and it is cooler in the shade. The winds vary very much, according to the particular spot. Denver, Estes Park, etc., are not very windy, nor so constantly dust-laden as are Phoenix, Albuquerque, etc. The outdoor life there is a great feature in the cure.

He said that Dr. Solly, in a report to the Pan-American Medical Congress, some years ago, tabulated 45 cases of tubercular laryngitis. In 25 the lungs were infiltrated, 20 had laryngeal ulcerations. Of his 25 infiltrated cases 17 lived an average of fifteen years—8 became worse and died, these averaging four years. In the 20 ulcerated cases, 5 were alive at the end of 8½ years, and 15 died or were worse at the end of 2½ years. Many died of pulmonary tuberculosis. There was, therefore, 64 per cent. of improvement or arrest; none of the patients died in the early stages of the disease.

Dr. Levy of Denver had also reported 42 cases in which 12 improved. One was cured, 2 improved after four years, 5 died and 7 were improving at the time of the report.

Dr. C. expressed it as his conviction, from personal experience and that of others, that there is nothing inimical to laryngeal tuberculosis in the climate of Colorado and New Mexico. He does not think high altitudes any contraindication, but that dust is, especially in alkaline regions. He does not see any reason for thinking altitude per se is inimical. This idea prevails among the profession, but the majority of cases do not do well anywhere. He does not see any direct curative agency in any climate, and thinks the good results secured are secondary in their nature.

DR. EDWIN KLEBS said he had observed the influence of climate in cases of tubercular laryngitis in Denver; the Alps; the Black Forest; Falkenstein; in Davos; Phoenix, Colorado; Arizona, and North Carolina. He believes that when climate benefits the pulmonary tuberculosis it benefits the tubercular laryngitis; but climate is of secondary importance, as none is specific; it is only an adjunct.

Omaha Medical Society.

Jan. 23, 1900.

THREE ABNORMAL OBSTETRIC CASES.

DR. W. O. BRIDGES presented a report on this subject. Two were cases of shoulder presentation, and in neither was the head impacted in the pelvic outlet. He was able to convert each, by bimanual manipulation, into a cephalic presentation and deliver, one with forceps and the other without. The most interesting feature of one was the fact that he could get the head over the neck, but it would slip away and be re-converted into a shoulder presentation with every new pain. To prevent this he resorted to profound anesthesia, then again secured the head in proper place and held it firmly until it was well engaged. The third case was one of albuminuria, with marked accumulation of liquor amnii, still further complicated by a central implantation of the placenta. When he was first called, he was unable to prove pregnancy present: he could get no fetal sounds; there was very great distension from fluid: edema and general anasarca were present and labor was said to be on; the cervix could not be reached at all. Later on, after some general treatment, he found a great degree of pain, no dilatation of the cervix; the pain continuous and convulsions on examination. He decided on rapid dilatation, which was accomplished in the midst of more convulsions. He found the placenta implanted centrally but not low down; this allowed him to detach, without much loss of blood. He then went through the placenta and ruptured the membranes, securing the largest flow of liquor he ever saw: it soaked the bed and ran through to the floor. By reason of the place of attachment of the placenta, he did not have the usual hemorrhage, though it was a central implantation. He therefore decided to apply the forceps instead of performing podalic version. This he was able to do at once, having a dead child. The mother never rallied, and died within an hour.

Dr. Bridges spoke of the rarity of convulsions with placenta previa, and of the very great danger involved. While it is the usual custom to perform podalic version, he was able to secure complete delivery with the forceps without loss of any material amount of blood.

HYDROCELE.

DR. B. B. DAVIS read a paper laying great stres on the evil features of the injection method of treatment of hydrocele. He spoke of it only to condemn it as really the most radical method while posing for the most conservative one. He has used the Volkmann method repeatedly, the open operation with free drainage, but prefers the Bergmann, with free incision and removal of part of the tunica, and the closure of the walls without any drainage.

The Johns Hopkins Medical Society.

Baltimore, Md., Jan. 22, 1900.

ADHERENT APPENDIX.

DR. H. A. KELLY reported a new method which he devised for dealing with an adherent appendix. He has found this condition in about twenty-five among the last 200 cases of abdominal section he has performed. His method consists in dividing the appendix at its base, then drawing out the mucous coat and separating beyond through the attached peritoneal covering. He explained his mode of dealing with the ureter in cases where it was involved in the tumor mass and had to be exsected, sometimes uniting the cut extremities or bringing the end to the bladder and making a new connection with that organ.

FIBROID UTERI.

In removing large fibroid uteri involving the cervix, he has found it difficult to reach the vessels for ligation, and under these circumstances he splits right through the mass from top to bottom, and thus secures access to the vessel.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
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SATURDAY, FEBRUARY 10, 1900.

THE DIAGNOSIS OF SMALLPOX.

In the presence of an epidemic the diagnosis of smallpox may in general be unattended with difficulty, but when the disease occurs only in sporadic instances doubt may often reasonably arise, and mistake may not always be avoidable. That error should be made at the present day, in the diagnosis, ought not be a matter for harsh criticism when it is considered that smallpox is comparatively rare, and many, particularly among more recent, practitioners have never had the opportunity of seeing a case of this disease. The action of the Philadelphia authorities recently, in response to an appeal by the County Medical Society, in opening the wards of the Municipal Hospital for Contagious Diseases to the instruction of undergraduates of the various medical schools, under the supervision of the physician in chief is, therefore, a matter for sincere congratulation, and is a credit to the intelligence and the public spirit of those with whom lay the power to withhold or to grant the desired concession.

Through the beneficent influence of vaccination, smallpox is rare, even in the large cities of the world, so that under the most favorable circumstances many practitioners may pass through a long and busy career without seeing a single case, to say nothing of the lack of clinical demonstration during the course of collegiate medical instruction. It is, therefore, as has been already stated, not surprising that cases of smallpox should be occasionally overlooked, or mistaken for other disease, and vice versa. The condition could not well be otherwise. It is worthy of mention, further, that by reason of the wide diffusion of vaccination even when the disease occurs, it does not always present the classic clinical picture. The frightful epidemics of the past are no longer met with in civilized communities, and both sporadic cases and endemics and epidemics often present a degree of mildness that renders the confounding of smallpox with other diseases exceedingly easy.

In a typical case, after a period of incubation of about twelve days, the attack usually sets in with a rigor or a succession of chills. Children may exhibit convulsions, delirium or coma. The temperature at once rises to a considerable elevation, and the pulse and respiration are accelerated. Headache and pain in the back and extremities are often present, and the physical prostration may be profound. The appetite is lost, thirst is increased, and constipation usually exists; vomiting or retching, with epigastric pain, is common. Catarrhal symptoms may also be present. On the first, second or third day a rash may appear, sometimes diffuse and macular, like that of measles, at other times scarlatiniform and confined to limited portions of the body, particularly the hypogastric and the axillary regions; at still other times a diffuse red eruption appears on the trunk and the extremities within the first or second day, being soon followed by the lesions of hemorrhagic smallpox. Generally on the third day—sometimes earlier, sometimes later—the typical exanthem of variola makes its appearance, often earliest on exposed parts of the body, as the face and the extremities. For a short time it is macular, but it soon becomes papular, then vesicular, and finally pustular, and it exhibits throughout a peculiar shot-like hardness. As a rule, a central depression or umbilication is present, and the lesion is surrounded by an area of redness. The pock is constituted of a number of compartments or loculi, so that its contents are not wholly discharged and it does not collapse on puncture. The mucous membranes may be the seat of greyish or whitish elevated spots that soon become transformed into excoriations. The pustules undergo desiccation or rupture on about the eighth or the ninth day. If the true skin has not been involved, the crusts fall off about the fifteenth or the sixteenth day, leaving purplish-red stains; otherwise sloughing takes place on the eighteenth or the nineteenth day, leaving granulating surfaces that undergo cicatrization and are at first brownish, but ultimately become white. The initial fever subsides shortly after the eruption has appeared, and the constitutional symptoms moderate at the same time. At the end of three or four days, however, with the onset of pustulation, the febrile manifestations are renewed.

The disease in the differentiation between which and smallpox the greatest difficulty is likely to be encountered is chicken-pox. In fact, there was a time when the two diseases were considered identical, but there is abundant and conclusive evidence against this view. In the first place, typical chicken-pox may occur in those who have had smallpox or have been vaccinated; and an attack of the disease, while it confers immunity to chicken-pox, does not protect in the slightest against smallpox or vaccinia. Then, each disease gives rise only to cases of its kind. Further, the eruption of chicken-pox begins as a series of small, slightly acuminated red spots, which at first disappear on pressure. In a few hours, these become transformed into round or oval, transparent, tense vesicles, about as large as split peas. These sometimes have a red base, although they are at times seated on a colorless surface. They appear most commonly and in greatest number on the trunk and the covered portions of the body; usually they are superficial, have no thickened floor, are generally not umbilicated, do not present a number of loculi, and when pricked collapse almost completely; their fluid contents become opalescent, but not purulent; they begin to undergo desiccation in from twelve to twenty-four hours; thin brownish-yellow scabs form, which in a few days crumble and fall away, leaving reddened

pigmented spots, and sometimes transient and superficial cicatrices. In contradistinction to the eruption of smallpox, that of chicken-pox generally appears in successive crops in the course of three or four days or a week, and in a single case all the different phases of the eruption may be present at the same time. The constitutional symptoms generally are exceedingly mild, and the temperature does not fall when the eruption appears, as it does in smallpox. The disease occurs almost exclusively in children, although many instances have been observed in adults. In this connection it should be borne in mind that smallpox also was largely a disease of children until the beneficent effects of vaccination almost revolutionized the incidence of the disease.

The primary eruption of smallpox may resemble that of measles, but the latter usually appears the later, and with its appearance the temperature, which originally had been high and had declined, again rises, while with the appearance of the papules of the eruption proper of smallpox the temperature declines. The eruption of measles further remains essentially papular throughout, while that of smallpox becomes successively vesicular and pustular. Catarrhal symptoms are earlier and usually more pronounced in measles than in smallpox. The latter is the longer disease.

There may be a close resemblance between typhus fever and smallpox at the beginning of each disease, but the eruption of the latter appears a day or two later than that of the former, usually avoids the face, does not become pustular, is often in part petechial, and the temperature does not decline with its appearance. The total duration of typhus fever is considerably less than that of smallpox.

In the headache, the pain in the back and the extremities, and the febrile symptoms, typhoid fever may at first be suggested in a case of smallpox. Epistaxis and diarrhea are, however, likely to be wanting in the latter, the onset of which is usually abrupt, while that of typhoid fever is insidious and gradual. Apart from the marked differences in the character and the course of the eruption that of smallpox appears earlier than that of typhoid fever, and its appearance is attended with decline in temperature and subsidence of the other febrile symptoms. The diazo reaction of the urine and the Gruber-Widal reaction of the blood are peculiar to typhoid fever, and the subsequent course of the two diseases is sufficiently distinct to prevent mistake.

The scarlatiniform rash, sometimes present early in cases of smallpox, and which may be suggestive of scarlet fever, is generally replaced on the third or the fourth day by papules, which in turn become vesicles and pustules. Rupture and desiccation occur in smallpox, and desquamation often in large flakes or sheets in scarlet fever. Further, sore throat with deposits on the tonsils or in the pharynx, enlarged cervical or submaxillary lymphatic glands, and a "strawberry tongue," are peculiar to scarlet fever; whereas in smallpox headache and backache are the more conspicuous.

The rash of erysipelas differs from the early roseola of smallpox in being circumscribed and indurated, and not succeeded by an eruption of papules, vesicles, and pustules, but terminating in desquamation, sometimes after the formation of blebs.

Contagious impetigo is an afebrile cutaneous disorder, attended from the onset with vesico-pustules on apparently healthy skin. The lesion is large, flat, and superficial, and on disappearing leaves no scar. The disease is communicated only by contact or direct inoculation, and it may spread by auto-inoculation.

The pustular syphilide may bear a close resemblance to the eruption of smallpox, but it occurs in crops, more superficial, is less indurated, is usually free from umbilication, exhibits no tendency to ulceration, is unattended with dermatitis, and is usually associated with a coppery discoloration of the skin, and other symptoms of syphilis, particularly granular enlargement. Much the same points of differentiation will aid in the separation of smallpox and other syphilitic eruptions.

Smallpox and such disorders as cerebrospinal meningitis, influenza, rötheln, and various erythematous conditions of the skin may for a time be confounded, but a careful scrutiny of the patient, a consideration of its associations, and the further development of the clinical picture, will in almost all cases clear up any doubt that there may have been in the diagnosis. A knowledge of the existence of other cases of smallpox, a history of exposure to infection and the absence of evidence of successful vaccination and revaccination may be important factors in reaching a decision. Error can only be avoided, however, by being constantly on one's guard and always prepared for the unexpected and the expected alike.

MULTIPLE AMYLOID TUMORS OF UPPER AIR-PASSAGES.

So-called amyloid tumors occur most frequently in the conjunctiva. They are in reality for the most part local amyloid infiltrations of granulation and hyperplastic connective tissue. In some cases the amyloid substance is present in small masses, in others larger nodules are formed that consist almost exclusively of amyloid material, and acquire a wooden hardness. Tumor-like accumulations of amyloid also develop more independently and without any evident association with inflammatory processes.

Next in frequency are amyloid tumors of the upper air-passages. These peculiar pathologic products belong to the more infrequent formations. Instances of occurrence in the trachea and the larynx are described by Burow, Balser, Kraus and Zeigler; partly solitary, partly multiple masses or tumors, sessile or pedunculated, were present in the submucous tissue of the parts mentioned; in some cases amyloid accumulations also occurred in the tongue. Recently Manasse[1] recorded two instructive cases of this disease. In the first there was

[1] Virchow's Archiv, 1900, vol. clix, p. 117.

found a large flat tumor, 3.2 cm. long and 1.2 cm. broad, situated on the posterior wall of the larynx and the trachea, and scattered about were numerous smaller growths, at times so closely aggregated as to resemble a more diffuse amyloid infiltration. The patient was a man, 63 years old, who died from peritonitis caused by the perforation of a duodenal ulcer. The masses were nodular, transparent and covered by an intact mucous membrane; on the application of iodin, the surface assumed a deep brown color; and gentian violet followed by glycerin and acetic acid gave the amyloid material a red color. A peculiar feature in connection with some amyloid growths in this situation is the presence of bone and of hyaline cartilage. Manasse believes that the islands of cartilage in his case were produced by a process of metaplasia in the connective tissue. The perichondral and parachondral connective tissue, in which the formation of amyloid masses takes place, is regarded as capable of thus forming both cartilage and bone. From the histologic description of Manasse it appears that in this case the deposition of amyloid substance took place in the preformed normal tissue.

Manasse's second case concerns a man, aged 50, who for some time complained of difficulty in swallowing and breathing. Amyloid nodules were found on the soft palate, both tonsils and the left aryepiglottic ligament. The last nodule was pedunculated and moved up and down with the movements of respiration; when snared off, it was found to be 2.5 cm. long and 1 to 1.5 cm. thick. The patient remained free from return of the growths for one year after their removal; after that time he disappeared from observation. In this case the localization of the growths is peculiar, especially as regards the masses on the palate and the tonsils. The amyloid substance had developed in a cellular substratum of a decidedly sarcomatoid appearance, being composed of small, spindle-shaped cells with but little intercellular material. The amount of amyloid in different parts of the nodules varied greatly, being in places visible to the naked eye, while in others only the microscopic examination could reveal its presence. The amyloid material made its appearance first about the periphery of the tumors. Bone and cartilage were absent in this case.

While most authors refuse to regard local amyloid growths as the result of secondary changes in connective tissue tumors, Manasse's second case seems to be an undoubted example of this mode of formation. In the more advanced stages purer masses of amyloid material would result, which would bear quite a resemblance to the apparently primary amyloid deposits illustrated by Manasse's first case. In both the amyloid material present was tinctorially similar. In both cases, as well as in many others previously described, the amyloid substance appears to be deposits within preformed spaces that from their form, situation and endothelial lining undoubtedly represent the lymphatic vessels. A nearly constant feature of amyloid tumors of the conjunctiva, air-passages and tongue is the presence of multinuclear giant cells. These giant cells are generally regarded as derived from the endothelial cells of the lymph vessels and to play the part of giant cells that form about foreign bodies; in this case the amyloid material is the foreign body, and histologic appearances indicate that the giant cells take up and dissolve the amyloid material. The presence of amyloid material in the lymph vessels would seem to indicate that this peculiar substance is first produced in the tissue spaces, whence it may subsequently infiltrate the surrounding tissue. Further than this, nothing positive can be said concerning the method and the cause of the local accumulation of amyloid material in the cases here described.

EARLY MEDICAL HISTORY.

According to Packard[1], the earliest mention of an autopsy performed in America is to be found in "An Account of Two Voyages to New England," published in London, in 1674, by John Josselyn, an Englishman, who had spent some time in New England. He writes: "A young maid that was troubled with a sore pricking at her heart, still as she leaned her body or stept down with her foot to the one side or the other; this maid during her distemper voided worms of the length of a finger; all hairy with black heads; it also fell out that the maid dyed; her friends desirous to discover the cause of the distemper of her heart had her open'd, and found two crooked bones growing upon the top of the heart, which as she bowed her body to the right or left side would job their points into one and the same place, till they had worn a hole quite through."

In the records of Roxbury Church, on Aug. 20, 1674, is the following: "John Bridge, died of ye Winde Collick and was buried the day following. His body was opened. He had sundry small holes in his stomak & bowels, & one hole in his stomak yt a man's fist might passe through, wch is throught was rent wth vyolent straining to vomit, the night before he dyed, for the watchers observed yt something seemed to rend with in him, and he said of it I am a dead man." Dr. S. A. Green, in whose centennial address before the Massachusetts Medical Society these cases are mentioned, also found accounts of two other autopsies in volume xxx of the records of the Essex County Court. On June 1, 1676, an examination was made of the body of Jacob Goodale in the complaint against Giles Cory. The jury's finding was: "Several wrongs he hath had on his body, as upon his left arme and upon the right thigh, a great bruise wch is very much swold, and upon the reigns of his backe, in colour, differinge from the other parts of his body we caused an incision to be made much bruised and Run with a gelly and the skin broke upon the outside of each buttocke. Sworne to 30: 4 mo. 76."

Cotton Mather says of this case, "That about seventeen years ago Giles Cory kept a man in his House that was almost a Natural Fool; which Man Dy'd suddenly. A Jury was Impannel'd upon him, among whom was

[1] Proceedings Path. Soc. of Philadelphia, 1900, iii, 16.

Dr. Zorobbabel Endicot; who found the man bruised to Death, and having clodders of Blood about his heart."

The other autopsy was held on May 2, 1678; the report on the result was made by the "Chirurgeon." "Search the Body of one called Edward Boyde: I made the incision upon the parte of his Body which was most suspitious which was upon the Temporall Muscle: I layd the Bones Beare: wee could nott find any fracture in the least neither was the flesh in any wise corupted or putrified."

Thus there are at least four autopsies prior to the one that Dr. Johannes Kerfbyle and five other physicians made on the body of Governor Slaughter of New York, in 1690.

In another paper, Packard[2] gives a résumé of the few facts known concerning the earlier medical societies. Prior to the founding of the College of Physicians of Philadelphia, in 1787, there were nine medical societies which, at one time or another, led a more or less active existence. Of the nine only three have survived to the present time—the Medical Society of New Jersey, the Massachusetts Medical Society, and the New Haven Medical Society. The College of Physicians of Philadelphia is the fourth in seniority of the medical societies in this country.

The title-page of the first number of a periodical that a medical society in Boston proposed to publish in 1735, contained the following among other titles: "A History of the Dysentery Epidemical in Boston;" "Some Account of a Gutta Serena in a Young Woman;" "The Anatomical Inspection of a Spina Ventosa in the Vertebræ of the Loins in a Young Woman;" "Some Practical Comments or Remarks on the Writings of Dr. Thomas Syndeham." Unfortunately this interesting number was never published. This society existed from 1735-1741. Its existence has been doubted, but Dr. Packard shows conclusively that it not only existed, but also flourished.

BUBONIC PLAGUE.

Now that the plague has reached Honolulu, and its introduction by way of one of our Pacific ports to this country is a possibility, it is well to be informed as to its peculiarities and dangers. A timely pamphlet has been sent out from the Government Printing Office, by Dr. Walter Wyman, Surgeon-General of the U. S. Marine-Hospital Service. It contains a brief historic introduction, followed by an account of the present epidemic, or almost pandemic, and a very complete statement of our modern knowledge of the disorder, its varieties, how it is spread, the life history of the bacillus, the means at our disposal for producing immunity and cure, and the hygiene and other measures advisable in case of its occurrence. The memoir concludes with a reproduction of the U. S. quarantine regulations in regard to this disease. It is obtainable by application to the U. S. Treasury Department or the Surgeon-General of the U. S. Marine-Hospital Service, and in view of possible, though it is to be hoped remote, contingencies it will be well for physicians, especially those on the seaboard, to post themselves by its contents.

[2] Phila. Med. Journal, Jan. 27, 1900; THE JOURNAL, 34, p. 354.

STUDENTS AND MEDICAL PRACTICE.

The medical students of South Carolina have succeeded in obtaining legislation exempting them from the state examination, and those of Ohio are diligently working to the same end. As the Charleston *News and Courier* reports it, the students of the Medical College of South Carolina are admitted to practice in the state on the diplomas of the college, without further examination, "trusting to the standard and integrity of the faculty of that college." A still further backward step was made by making it optional with the Board of Examiners to recognize the diplomas of any four-year-course colleges of acceptable standard as qualifying to practice. As matters stand, the responsibility of medical reform rests, as regards outside institutions, on the examining board, and for the local institutions, on the "standard and integrity of the faculty," and it is hoped they will both duly apprecite this. In the case of the Ohio students, also, who, against the protest of the faculties of the colleges, are lobbying against the proposed practice act, the "standard and integrity" of the faculties should insure that no incompetent practitioners are let loose if the guarantee of the state examination is lost.

DECLINE OF CONSUMPTION IN NEW HAMPSHIRE.

While the sanitarians of California and Colorado are lamenting the increase of consumption within their borders, those of some of the eastern states find reason for congratulation on its diminution. The *Sanitary Bulletin* of New Hampshire, for January, contains a diagram showing the ratio of deaths from this cause to the total mortality for each year from 1884 to 1898. Commencing with over 14 per cent. in the first-named year, the percentage rapidly decreased to a little over 10 in 1889, rose with the influenza epidemic to about 11.5 in 1890, then rapidly fell again to 9.5 in 1892, rising a little above 10 in the three following years, to again steadily fall to exactly 9 per cent. in 1898. A reduction of over one-third in the proportional mortality from this disease is an encouraging showing, and from the diagram it would seem there is nothing to indicate that the diminution, which has been so long and steadily progressive, will not still continue. The *Bulletin*, in its brief statement, makes no attempt to account for these facts. It would appear that the people in New Hampshire are becoming immune or that the disease is in some way or other losing its virulence there. The change is certainly too great to be accounted for by the emigration of consumptives; indeed, there is no certainty that that is a factor at all. The *Bulletin* also contains some remarks on the danger of infection by milk, which it considers as having been over-estimated. In support of this opinion it refers to the data given out by the agricultural experiment stations in Wisconsin and Connecticut. The experiments that have been made of feeding calves with the milk of tuberculous cows in the Storrs Agricultural Experiment Station of Connecticut are noticed, and the conclusions deduced are quoted. It

would seem from these and other facts that, while there is no reason for neglecting necessary precautions, there has been an unnecessary number of alarmist statements given out on this point.

FOOTBALL AND DEVELOPMENT.

A Boston physician has made the charge that the popular game of football is disastrous to grace and symmetrical physical development. He says it develops the external and superficial muscles at the expense of the internal and more important ones, that its positions are abnormal, that except running there is hardly an exercise in the game that calls for normal action, that it develops muscles at the expense of vital force, etc.; in short, that it is altogether bad and tending to physical degeneracy. From the usual slight acquaintance with the game possessed by the average citizen, these criticisms appear a little one-sided. If there is any recreation that seems to call into play every possible bodily movement, football would seem to be the one. It may not be specially conducive to grace, either inward or external; we can not say it is not, but its perils appear to outsiders to be chiefly mechanical ones; it seems less dangerous than an ancient gladiatorial combat, but rather more so than a modern French duel. Aside from its apparent dangers, which are probably less real than might be thought, it has its merits as an athletic exercise, and evidently demands more than mere muscle work, though as such it cultivates the highest development. As to its tendency being to asymmetrical development, it is claimed that the records of our colleges find the football players the most symmetrically developed of all athletes. There is a chance for more thorough research into the effects of football on the organism, but so far as the evidence is in, the particular charges made seem hardly justified.

VEGETARIANISM AND THE BIBLE.

A vegetarian editor claims that the Bible is the authority for the statement that the first men were vegetarians, and that when man enlarged his diet he limited his longevity. The first chapters of the Bible are not generally accepted as literal history, and the views as to primitive man, even among orthodox Christians, are not that he was altogether a superior being to his modern successors physically, morally or intellectually. The credible evidence that he was exclusively a vegetarian is very slight in amount or in value; he was probably at least partially insectivorous, as are his nearest relatives, the quadrumana, as can be seen by inspection of any monkey-cage. Taking it literally, however, first chapters and all, the Bible gives very little support to the vegetable diet theory. From Abel's satisfactory sacrifice and his murder by the vegetarian Cain, down through the Old Testament in which we read that meat eating was made a religious duty of the chosen people, and in the New Testament with its fishermen apostles and its mention of false teachers, "commanding to abstain from meats," we find almost nothing approving and much disapproving of vegetarianism. It is, in fact, a perversion of Scripture and, therefore, from a Christian point of view actually wicked in vegetarians to claim the Bible as an advocate of their cause. They had better confine themselves to such support as they can find in profane literature, and the use of such epithets as "pigarians" will, in default of argument, probably serve their purpose.

APPROPRIATED FOR COMMERCIALISM.

A well-known eastern physician published an article in a reputable medical journal, and an enterprising drug firm, interested in the remedy mentioned, had 120,000 reprints made and sent them broadcast to the profession, over his signature, black lining the margin of the page where the remedy was alluded to. After spending $600 to prevent this use of his production, the physician was beaten on the ground that the article was not copyrighted. The obvious moral from this fact is, publish your articles in copyrighted publications, especially if they contain anything that by hook or crook can be utilized by commercial outsiders. This answers the question how to prevent such misuse of scientific material; the courts certainly will protect against infringement of the copyright laws. If articles are to be printed in uncopyrighted journals, it will be well to insure that they contain nothing that can be pirated to the financial advantage of anyone. We regret that it must be admitted that there are some who wish no defense from gratuitous advertising in this way, but we believe that honest and scientific physicians can, with a little care, put themselves in a position to be free from such unpleasant and unprofessional notoriety.

ALBUMINURIA AND NEPHRITIS IN THE COURSE OF DISEASES OF THE SKIN.

There is abundant evidence of the interrelation of function between various organs and tissues, as, for instance, between the skin, the kidneys, the lungs, and the gastro-intestinal tract. Not only is this relation of importance physiologically, but it can be, and is, often availed of therapeutically, failure in the functions of one of these tissues being compensated for by increased activity on the part of the others. The skin, by reason of its vast extent and its exposure to injurious influences of all kinds, is especially liable to be the seat of disease, and the importance of its functions and its relations to other organs makes such disease particularly serious. Interference with the action of the skin throws, as is well known, increased work on the kidneys; burns of the surface may be attended with ulceration of the duodenum or the stomach; various lesions of the cutaneous integument may be the portal of entrance for various infections. In view of these facts, it is rather a matter for surprise that disease of the skin is not more commonly followed by serious complications than is generally appreciated. Systematic investigation, however, may prove that this infrequency of association is more apparent than real, and in support of such a possibility Pechkranz[1] reports the results of a careful study of the urine in 128 cases of scabies, with more or less extensive eczema in consequence of scratching and infection. The patients were principally between 9 and 20 years of age, and almost all males, in order to eliminate, so far as possible, the leucorrheal and menstrual discharges. The test-agents employed were nitric acid, acetic acid with

1 Wiener Med. Woch., 1899, Nos. 51 and 52.

potassium ferrocyanid, and sometimes also trichloracetic acid. Among the entire number of cases albuminuria was discovered in twenty-four, either persisting throughout the period of observation—from one to two weeks—or occurring irregularly in both time and amount. In some the amount of albumin present in the urine was considerable, and in a small number tube-casts also were found. Cases of analagous character have occasionally been recorded by other observers. In the absence of positive knowledge as to the etiology of the disturbances of renal function under the conditions named, Pechkranz suggests that they may be due to irritation of the kidneys by micro-organisms that have gained entrance into the body through lesions in the continuity of the skin, or by the toxic products of bacterial activity.

SUTURE OF WOUNDS OF HEART.

Although it has long been known that death does not invariably follow immediately on wounds of the heart in human beings and animals, and that spontaneous recovery from such wounds may take place in animals, as demonstrated by post-mortem examination, it is only within comparatively recent times that the possibility of recovery in human beings also has been adequately appreciated. Wounds of the heart are attended with two important sources of danger, namely, excessive hemorrhage and interference with the action of the heart from the pressure of the blood in the pericardial cavity. Until within a few years surgical intervention for the relief of such wounds was not merely not sanctioned, but was actually condemned. As, however, it was shown experimentally that even radical operations could often be performed successfully on artificially induced wounds of the heart in lower animals, it began to be realized that similar measures of treatment were applicable also in the case of man. In nine cases in which suture of the heart has been practised in human beings, recovery ensued in four, and death in the remaining five from complications and accidents. With the object of determining how extensive an injury the mammalian heart can safely withstand, and how extensive a suture could be applied to the heart without interference with its function, Elsberg[1] undertook a series of experiments on rabbits and dogs, and found that the heart in these animals bore a much greater amount of manipulation than had hitherto been suspected. Large wounds of the heart proved capable of healing, and the healing process occurred in a manner analogous to that in which it takes place in other muscular tissues. Even extensive suture of the heart-wall did not interfere with the functional activity of the cardiac muscle as a whole, although a large number of muscular fibers were destroyed, and were replaced by connective tissue. The results of these observations, it is believed, can in a general way be legitimately applied to the human heart. They are supported also by the results of clinical experience in human beings. The proposition may be made, therefore, that wounds of the heart in man should be sutured when all other means of relief have been tried without success. The introduction of the suture, which preferably should be of silk, was found to be unattended with danger of sudden arrest of the heart, as has been feared in the past. An interrupted should be preferred to a continued suture and the stitches should be as few as possible, in order to keep within the narrowest limits the amount of connective tissue that will necessarily be formed. As little of the heart's substance as possible, together with the epicardium, should be included in the suture, and this should be tied during the diastolic relaxation of the viscus. Absolute indications for operation, or for the time of its performance, can not be laid down. The decision in each case must, for the present at least, be made on the individual merits of the case.

[1] Jour. Exp. Med., iv, 5, 6, p. 479.

UNIFORM LEGISLATION OR RECIPROCITY.

The movement inaugurated, or rather promoted, by the Wayne County (Mich.) Medical Society, for the establishment of a reciprocity in licensing to practice medicine in the different states has been in general very favorably received by the profession. The justice and the expediency of such reciprocity can hardly be questioned provided no deterioration of the standards is implied. What the country needs is a well-qualified profession, and it makes no difference where the qualifications are determined if only this is adequately done. At present the condition as regards the country as a whole is chaotic; a physician in one state may have no professional rights across an imaginary line that may cut his practice in two. Such a condition is exceptional and is provided against in some states, but it may occur. Each state board makes its own standard, and, in those states in which the law provides for reciprocity, the differences are considered by those in authority to be often so great that the application of this part of the law is out of the question. The chairman of the committee on legislation in one state openly says that the standard in his state is so high that reciprocity is out of the question, for the present at any rate. In many of the states no provision has been made for recognizing certificates from other states, no matter how high the standard might be. All these are drawbacks to true medical reform, which should first of all be unselfish and scientific, recognizing whatever has proved itself worthy. Inasmuch as it does not appear to be a function of the general government, the regulation of medical practice will have to be left to the states. The work of reform, however, is not done by disconnected individual action on their part. Local laws with local tinge and for local advantage only are not a worthy ideal for an honorable scientific profession. The recognition of worth and fitness should be universal; in no other way can we obtain or deserve the general approval of the public as well as of ourselves. The standards should be high, and, in an ideal condition of affairs, ought to be sufficiently uniform to permit a qualification in one region to be valid in another where medical practice acts exist. This ideal can not be reached by disconnected efforts; the movement must be co-ordinate in the different states. It may require delegated action by states and national societies as well as by conferences of examining boards, such as has just been held by those of the New England States. Results thus far attained are so unsatisfactory that evidently the past methods adopted have not been the best ones. What is needed is united action among those who are striving in different states for satisfactory laws. The profession in each has acted without regard to the ex-

perience of the profession in others. It would seem that much could be learned by inquiring into the cause of success or failure of those working in other states, not only in knowing what is the best law, but the best way of getting it. Uniform legislation in the different ones would be better than reciprocity, but this uniformity can only be obtained by an organization of representatives from every state. Consistent and persistent effort on the part of such an organization would in time bring about the desired object. In any case the subject, in all its aspects and with its various problems, needs to be kept before the medical profession. The results may and probably will not appear at once, but steady agitation will ultimately have its effect.

Medical News.

A LEGACY of Jenny Lind-Goldschmidt gives the Samaritan Hospital, Stockholm, Sweden, $30,000.

THE CHILDREN'S ward at St. Luke's Hospital, Jacksonville, Fla., which was dedicated three weeks ago, was damaged by fire January 26.

TWO RECENT attempts to establish a crematory at Monmouth Beach, N. J., have met with such opposition from the cottagers that the project has been abandoned.

STEPS HAVE been taken for a new and enlarged hospital for the Jefferson Medical College, Philadelphia. Owing to the increased number of students and clinical material of this hospital, the present facilities are inadequate. The old building will only in part be torn down.

THE SUPREME Court has sustained the law requiring all barbers in Minnesota to have licenses, which has been the subject of contest for two years. It is held that there is as much necessity for a law requiring the maintenance of cleanly barber shops as there is for those regulating the practice of dentistry, law, medicine or plumbing.

CLEVELAND has an Appendicitis Club, to be eligible to which it is necessary to have a surgeon's certificate that the applicant has undergone an operation for that disease. The *Chicago Daily News* suggests that another operation on their brains would be interesting to the general public as showing what quality of gray matter, if any, goes to the formation of the nominal thinking apparatus of the members.

ACCORDING TO *Vossiche Zeitung*, Berlin, the German government proposes to introduce a bill to regulate private laboratories. The proposed bill is to contain measures which will compel investigators to take extraordinary precautions against the escape of pathogenic germs. The journal quoted condemns such legislation as likely to curtail the important investigations which are in progress, and hamper those who are doing bacteriologic work. The probable cause of the idea of such proposed legislation was the outbreak of plague in Vienna over a year ago, resulting from carelessness on the part of some one.

PROGRESS OF THE PLAGUE.—The official reports convey the following information: 1 death occurred at Rio de Janeiro, January 11; 35 are reported from Honolulu from the outbreak of the epidemic to January 17; 9 cases and 5 deaths were reported from Noumea, New Caledonia, January 1, and 1 case from Lisbon, Portugal.

PRACTICE IN IOWA.—According to the lay press, the senate committee on judiciary, in Iowa, has decided to report a substitute bill for the bills already reported relative to the examination of medical graduates of the State University. It was decided to report a bill providing that the graduates of all medical schools shall be placed on an equal footing; they shall pay a fee of $10 instead of $25 for a certificate of admission to practice; all graduates of all medical schools in the state, of good standing—this is determined by the State Board of Medical Examiners—shall be examined by a committee of that Board at the time of graduation, at the place of graduation. This bill, it is said, satisfies the friends of all the medical schools of the state.

ASSISTANT-SURGEONS FOR THE PHILIPPINES.—Surgeon-General Sternberg asks us to announce that the Medical Department of the Army is in need of additional assistance in the Philippines and it is desired that candidates for appointment as acting assistant-surgeons will make application to the Surgeon-General of the U. S. Army, Washington, D. C. Applicants must be graduates of reputable medical colleges, who have had practical experience, since graduation, in hospitals or in private practice. Candidates between the ages of 25 and 35 are preferred. They should forward, with their application, one or more letters from well-known professional men, giving testimony as to their character and qualifications. Appointments will not be made through political influence, and letters designed to produce political effect will injure rather than benefit the applicant. All applicants will be examined as to their physical and professional qualifications for service in the Philippines before they are given a contract. Contracts are made for one year, with the understanding that the approved candidate will remain in service for a longer period if his services are required.

DOCTORS AND PATIENTS.—It seems that Goltzius, a prominent engraver and artist of Holland in the sixteenth century, published a set of four engravings in 1587, representing the relations between the physician and the patient at the different stages of illness and after recovery. The set is reproduced in the February 15 issue of *Janus*. Each engraving shows two apartments. On the left a patient is in bed, the physician feeling his pulse, surrounded by the anxious family. The scene on the right shows two patients, one with a fractured limb, on which the physician is busily engaged. In the foreground, against the dividing wall, stands the allegoric representation of the physician as he appears to the patient and his friends, a colossal god, a Christ, radiating wisdom, strength and love, in one hand a vial of urine and in the other a cauterizing iron. The same scenes are portrayed in the three other engravings, the patients advancing toward recovery, but the colossal figure in each changes. Instead of a god, No. 2 is merely an angel, but still grand and noble. In No. 3. in which the patients are depicted sitting up, the colossal figure of the physician is that of a well-dressed, dignified man. In No. 4, in which the physician is represented extending his hand for his fee—the patients dressed for the street—the colossal figure has become a devil with horns and grasping hands. Two other similar sets are also reproduced, later in date. All are carefully drawn to the smallest details, and are interesting portrayals of the art of medicine in their day. Goltzius appended to his set the warning to physicians to demand their pay while the patients are still suffering and not wait until their recovery.

NEW YORK.

AN EPIDEMIC of measles has broken out at Fort Slocum, on David's Island. This post, which has been practically quarantined, has been for the last two or three months the recruiting rendezvous for the regular army stations east of the Mississippi.

CAPT. FREDERICK P. REYNOLDS, assistant-surgeon, U. S. A., Fort Slocum, and who was ordered to accompany recruits on the U. S. transport *Sumner* to Manila, has been detailed as a member of the board of medical officers convened in San Francisco, vice First-Lieutenant Bailey K. Ashford, assistant-surgeon.

MORTALITY IN 1899.

The annual bulletin of the State Board of Health shows the number of deaths during 1899 to have been 121,320, which is 850 more than in the previous year and 4740 more than in 1897, a year of exceptionally low mortality. The death-rate per thousand was, however, the same as the average for ten years, i. e., 17.3. There was a notable decrease in the infant mortality and in deaths from diphtheria, as compared with the average for the last ten years. It is estimated that la grippe caused 7000 deaths in the first four months of the year.

STATE HOSPITAL FOR CONSUMPTIVES.

On January 31 there was a joint hearing of the Senate Finance Committee and the Ways and Means Committee of the Assembly for the purpose of discussing Senator George A. Davis' bill, which asks for an appropriation of $200,000 for the establishment of a state hospital for consumptives. Of those medical men who spoke on the subject, only one, Dr. J. H. Byrne, chairman of the Committee on Charities and Legislation of the New York Medical League, expressed his disapproval of the measure. He characterized it as unwise and inadequate legislation, objected to the admission of paying patients to such a hospital, and advised the legislature to go slowly in the matter of making the appropriation. Dr. John H. Pryor, of Buffalo, in addition to urging the passage of the bill, suggested that there should be three instead of two persons on the Board of Managers, and that not more than two should belong to one school of medicine.

New York City.

THE ANNUAL charity ball, in aid of the Nursery and Child's Hospital, which has been more or less of a fashionable event since 1857, except two years during the Civil War, when it was omitted, took place February 1, and was highly successful.

DEATH FROM BERIBERI.

A death from beriberi is reported from the Long Island College Hospital, Brooklyn. The patient was the captain of the Portuguese bark *Nanny*, which recently arrived from Oporto, and he was ill with the disease at the time the vessel reached New York. Two days later he was removed to this hospital, where he died on the day of his admission.

MT. SINAI HOSPITAL.

Ground has been broken for the new buildings which are to house this hospital. The site selected is the entire block bounded by Fifth and Madison Avenues, and One Hundredth and One Hundred and First Streets. Construction will be largely of marble and light brick, and it is estimated that the building and its equipment will cost $1,335,000.

LOCOMOTION WITH BROKEN LEG.

A policeman in the Borough of Brooklyn recently noticed a man hopping along on one foot, then falling; then picking himself up and hopping along for a short distance, only to again fall. On inquiring the cause of the man's disability he received the rather startling information that he had broken his leg while in the Borough of Manhattan, but, nothing daunted, had traveled in the elevated cars, and then tried to walk to his home. An ambulance was called, and the surgeon in charge confirmed the statement that the leg was broken. The man had almost succeeded in reaching his home.

EFFECT OF FASTING.

A man in this city hopes to abstain from all food for forty days. He has already refrained from tasting food for twelve, and last year lived twenty-eight days without any. He then reduced his weight from 210 to 168 pounds. On the first day after this fast he took a half cup of bouillon; on the second a glass of milk, and on the third a good meal. The present fast began January 22, and he claims that he has not taken anything since that time, except between one and two pints of a pure mineral water daily. When he began his weight was 207 pounds; now it is 184 pounds. On the second day he felt quite weak, and since then has been occasionally a little feverish, but his condition is such that he puts in the usual day's work at his place of business. Aside from improving his own health, he says that his object is to keep accurate records of his observations as to his weight, girth, and quantity of water ingested, with a view of furnishing useful information to the general public and to the medical world.

PROPOSED LEGISLATION.

A bill has been introduced in the legislature providing that in case the amount of antitoxin prepared under the auspices of the New York City Board of Health shall exceed the quantity required for actual use, the board may cause such excess to be sold at public auction, provided that the aggregate net amount of each sale shall not in one year exceed $5000. Another measure introduced provides that no person or corporation shall sell or offer for sale any proprietary or patent medicine containing cocain; medicated snuff and tobacco and headache and catarrh and hay fever "cures" are specially referred to in the act. Still another bill has for its object the establishment of a board of examiners in lunacy for the City of New York. It was introduced in the state Senate on January 31, and provides for the appointment by commissioners of public charities, of a board of duly qualified physicians who shall have had at least ten years' experience in the active practice of medicine. Four members are to be appointed for the Boroughs of Manhattan and the Bronx, four for the Boroughs of Brooklyn and Queens, and two for the Borough of Richmond. The chief examiner is to be selected from the City of New York at large, the others to be residents of their respective boroughs. The salary of the chief examiner is fixed at $5000 a year, while the examiners for Manhattan, the Bronx, Brooklyn, and Queens are to get $3,500, and those for Richmond (Staten Island), $1500. A bill has also been introduced providing that an ambulance shall have the right of way in any street over all other vehicles excepting those carrying the U. S. mail.

N. Y. POST-GRADUATE HOSPITAL.

The 50th annual report of this institution shows that during the past year it gave 38,313 free days of hospital care. Five hundred and twenty-three practitioners attended the medical school, and the amount of money received from students' fees and certificates, which was given to the hospital, was $30,046. Among the 1633 adults and children treated in the wards, there were 77 deaths, and among the 1035 infants in the babies' wards, 253 deaths. This apparently large mortality among the latter is explained by the fact that incurable cases are not excluded, and a considerable proportion of those treated were known to be of this character when admitted. In the dispensary department, 17,455 new patients were treated, an increase of 1000 over the preceding year, and in the lying-in department, 368 were treated during confinement in their own homes. There is at present no indoor lying-in department and the directors refer to the urgent necessity of having one provided. During the year, $3359 was received from the municipal treasury, toward the maintenance of babies. The city does not contribute a lump sum for the purpose of the babies' wards, but the authorities agree to pay 38 cents a day for each pauper infant treated in the institution provided it has been a resident of New York for twelve months. Since the last report was published, an arrangement has been made with the managers of the Dairy Fields Home, at Englewood, N. J., by which patients from the orthopedic ward may be transferred to that institution, though still remaining under the care of the Post-Graduate surgeons. By the gift of Harris C. Fahnestock, there has been erected, opposite the Post-Graduate Hospital, the Margaret Fahnestock Training School for Nurses, which is a part of the medical school and hospital.

PENNSYLVANIA.

AN INMATE of the almshouse in Scranton recently had left to him a fortune of $12,000.

ON ACCOUNT of smallpox in the Westmoreland Hospital, at Greensburg, that institution has been quarantined. Thirty patients with other maladies were under treatment at the time.

OWING TO the prevalence of scarlet fever and diphtheria in

Scranton. Health Officer W. E. Allen has given orders to close the Scranton Public Library for an indefinite period.

THE PUBLIC school in Conestoga Township is perhaps the first in this country to adopt individual drinking-cups for its pupils. The cup is made of agate and holds about one-fourth of a pint.

A PHYSICIAN was recently tried in Harrisburg on the charge of performing a criminal operation by which his victim died. He was sentenced to the penitentiary for four years and six months and also fined.

QUARANTINE AGAINST RABIES.

Several weeks ago a dog supposed to be mad bit others in the neighborhood of Miles Township. Soon afterward many dogs were killed. It was noticed that several days after cattle also manifested signs of the disease. The Live Stock Sanitary Board was notified and sent Dr. John Riter to the district, and, after making a thorough examination, he decided that the cause of death among the cattle was rabies in a severe form. A strict quarantine was immediately placed on all cattle in the district.

CLOTHES AS CARRIERS OF INFECTION.

A recent order has been issued in Pennsylvania calling on the officers connected with the Factory Inspection Law to break up the practice of selling clothing made in unhealthy or unsanitary places. It is said that in Philadelphia over 100 places in which clothing had been made in buildings where infectious or contagious diseases had been found were closed during the past year. The clothing found was confiscated. It is further stated that only a few days ago clothing was being made in a place where both scarlet fever and diphtheria prevailed. In this instance the parties had only been in this country for a few months. The greatest offenders are those who make a business of peddling.

Philadelphia.

DR. J. H. MUSSER entertained the Stillé Medical Society at his residence on the evening of January 27.

DR. SOLOMON SOLIS COHEN has been chosen to deliver a lecture in the Mickve Israel Association course, February 11.

THE BOARD of Directors of the Jewish Maternity Home has decided to make an addition to the building now used by that institution. The new department will be devoted to gynecology.

THE NEW operating-suite of the University Hospital, the gift of James D. Lippincott, has just been opened. The suite contains four sections, a large operating-room in the center, and opening into this a sterilizing-room, the surgeons' bath-room, the etherizing-room and one for recovery from the anesthesia.

AT THE annual meeting of the Medico-Legal Society, January 30, the following officers were elected: president, A. M. Eaton; first vice-president, L. Hooler; second vice-president, Samuel Wolfe; secretary, C. H. Clewell; treasurer, G. W. D. Peltz; librarian, J. D. Nash.

THE SOCIETY of ex-Resident Physicians of the University Hospital held its first annual dinner the evening of February 3. The meeting was attended by fifty of the eighty-two ex-residents of the University Hospital. The following officers were elected: president, H. R. Wharton; vice-presidents, Edward Martin, Barton Cooke Hirst, Richard H. Harte; secretary and treasurer, Albert Philip Francine.

THE PROCEEDS from the annual charity ball during the past twenty years has been $200,000. This has been distributed among fifty charitable organizations throughout the city. This year the following will be beneficiaries: University Hospital, Jefferson Hospital, Women's Directory, and the Southeastern Dispensary.

SCHOOL INSPECTION.

The reports by the inspectors of public schools, recently appointed, go to show that the work has been most satisfactory. So far only one case of diphtheria has been found, and in that instance the child was at once sent home and the room disinfected. The following were represented: skin diseases, ulcerated mouth, gastritis, nasal catarrh, eye strain, feeble-mindedness, pharyngitis, chicken-pox, measles, ulcer of cornea, hypertrophied tonsil, nasal obstruction, conjunctivitis, goiter, chorea, granular lids, mumps, tinea circinata, palpitation of the heart and enlarged lymphatic glands.

OPIUM SMOKING.

Since the unfortunate death of the young woman from smoking opium, mentioned in these columns last week, a crusade has been instituted by the city authorities among the citizens of Chinatown, and a large number of arrests have been made. While it was known that such practices were by no means uncommon, the amount of vice and crime upturned has been something to engage the attention of the people at large. As a result of the arrests a large sum of money has been obtained by fines, while on others a sentence to the House of Correction has been imposed. In revenge many of the Celestials propose a boycott on those members who have become Christians.

MARYLAND.

THE NEW medical practice bill introduced into the legislature makes unlawful the itinerant vending of any drug, ointment or application of any kind intended for the treatment of disease or injury.

ACCORDING to the annual report of the Board of Charities and Correction, of Frederick County, the disbursements for Montevue Hospital (for the insane) of Frederick City, for the last year, were $23,178. The average number of inmates was 263.

THE STATE veterinarian reports that, during the last four years, 191 visits were made to stockyards and abattoirs and 45,625 cattle inspected, among which were found 323 cases of tuberculosis and 19 for lumpy jaw.

SCHOOL FOR FEEBLE-MINDED.

The Maryland Asylum and Training School for Feeble-Minded Children, Owing's Mills, has asked the legislature for $200,000 for the next two years in addition to $13,000 already received annually for its maintenance. The superintendent was given the floor of the House of Delegates, February 1, for an exhibition by twenty of his pupils. A brass band composed of very young boys played several pieces, which the others sang. There were recitations, and specimens of handiwork were exhibited. The appropriation desired is for new buildings and increased accommodations.

REGULATION OF DAIRY PRODUCTS.

A bill has been introduced in the legislature for the appointment of a state dairy commissioner at a salary of $2000, and with two assistants with salaries of $1200 and $1000 respectively. The commissioner is to be charged with the enforcement of all laws against fraud and adulteration in the manufacture and sale of dairy products. Free analyses are to be made for him by the chemist of the Maryland Experiment Station (Agricultural College), and he is also empowered to employ other chemists, experts, counsel, etc., when deemed necessary. Free access to factories, etc., with power to secure samples at pleasure is to be permitted, and $12,000 appropriated annually for expenses.

BLOTS ON THE ALMHOUSE SYSTEM.

"One of the worst blots upon the almshouse system in this state," says Secretary Preston, of the Lunacy Commission, in his fourteenth report, "is the freedom with which the sexes mingle. During the past year at least half a dozen children have been begotten and born in the county almshouses. This refers, of course, to the children born of insane or feeble-minded women. Where there is no supervision or at least a very feeble attempt at supervision over the pauper insane such calamities must occur. In several of the county almshouses of this state there are insane or feeble-minded women who give birth to children almost as frequently as the law of reproduction permits. Under the plan proposed" (the uniting of several counties in building and equipping a suitable institution located on a large farm and provided with competent service) "the sexes would be vigorously separated and such shameful occurrences would be impossible. The superintendents of almshouses have repeatedly told the secretary that under the present system it is impossible to keep the men and women apart. Disregarding the moral side of the question, it would be far more economical for the counties to adopt some such plan as the one proposed or send such women to the state institutions. The children born of this class are as a rule idiotic and lifelong charge upon the country." Referring to epileptics, the same report says: "There is no class in the community more deserving of sympathy than those unfortunate individuals afflicted with epilepsy. Epileptic children are not allowed to go to school if they have attacks during

school hours. It is impossible for such children to obtain employment since, upon the first attack they are dismissed. Hence it is imperative upon the state to assume charge of this class or at least of the indigent individuals belonging to it. At present, there is absolutely no place in the state where indigent epileptics can be sent. The plan of colonizing them, which has been in successful operation for many years in Germany has been inaugurated in many of our states and has proved of inestimable benefit to this unfortunate and helpless class. It would be a perfectly feasible plan to inaugurate an epileptic colony at Springfield." (The second asylum for the insane). "It is clear that the state will be compelled to afford some provision for this class in the near future and there is plenty of room at Springfield for the colony."

Baltimore.

THE RECEIPTS of the two-days benefit recently given the Maryland General Hospital amounted to $1200.

FORTY-THREE of the 198 deaths reported in Baltimore last week were from pneumonia.

AN ENTERTAINMENT for the benefit of the Southern Free Dispensary was given on the 31st ult. The program included two comediettas with several musical numbers and dancing. During 1899 over 6800 cases were treated and 14,571 prescriptions compounded.

ANTI-EXPECTORATION.

An effort is being made to enforce the anti-expectoration law. The women have taken the matter up. The present ordinance refers to expectoration in street-cars and public buildings. The passage of a special ordinance by the city council, applying also to the sidewalks, is favored. The police commissioners will use their authority and will employ officers in citizens' clothes to enforce the present law,

DECISION AGAINST A SCHOOL.

Dr. Erwin Ebaugh has obtained a verdict for $270, in the city court, against the Baltimore University. He claimed that, by the terms of his contract as professor in the institution from Sept. 1, 1898, to May 1, 1899, he was entitled to one-tenth of the net income of the school during the period named, which it was alleged amounted to $2700. For the defense it was denied that there was any contract or any net income. Similar suits of Drs. Arthur G. Barrett and C. Urban Smith are continued.

OHIO.

DR. H. F. ROHRS has been appointed pension examining surgeon at Napoleon.

DR. D. S. GARDNER, of Massillon, has tendered his resignation as a trustee of the Cleveland State Hospital.

THE ANNUAL report of the Lakeside Hospital, Cleveland, shows an increase in the number of patients treated in 1899 over 1898, of nearly 25 per cent. The expenses of the hospital were upward of $90,000, and the income about $73,000, leaving nearly $20,000 to be raised.

IN THE report of the tenth annual meeting of the state and local boards of health (THE JOURNAL, February 3, p. 306) an error was made in announcing an election of officers. The meetings of the health boards are held under the auspices of the state officials, the state board paying all the expenses and the officers of the board acting as the officers of the meeting.

ILLINOIS.

Chicago.

DR. ARTHUR R. REYNOLDS, Commissioner of Health, delivered a public lecture February 2, on "The Work of the Health Department."

A MOVEMENT has been inaugurated toward the establishment of a hospital at South Chicago. The sum of $1025 has been subscribed for this purpose.

A MEETING of Illinois stock-raisers and dairy men was held February 2, and resolutions were passed recommending a change in the law which compels the injection of tuberculin in cattle shipped into the state.

AT THE annual meeting of the Chicago Medical Examiners' Association January 30, the following officers were elected: president, Denslow Lewis; vice-president, W. K. Harrison; secretary, G. F. Butler; treasurer, J. Homer Coulter.

MORTALITY STATISTICS.

The mortality during the past week was 504, which is 22 less than for the corresponding week of 1899, but 18 more than for the week previous. The greatest mortality was from pneumonia, which caused 113 deaths, or more than 22 per cent. of the total. This increase is due to the extreme severity of the weather.

INSPECTION OF SCHOOLS.

The report of the medical inspection of schools for the week ended February 3, shows a decided decrease in the number of exclusions of children over those of the preceding week. There were 4248 examinations made, as compared with 7376 for the week previous. The exclusions during the two weeks were 452 and 291 respectively. This diminished number is regarded as an indication that parents are waiting until their children are fully recovered from contagious diseases before sending them to school.

INDIANA.

THE SUPREME court has sustained the State Board of Health in its order excluding unvaccinated children from the public schools.

THE ANNUAL report of the Indianapolis City Hospital shows that 1808 patients were treated in the institution during the year. The total expenses were $31,000, and the per capita cost of maintenance was at the rate of 44 cents a day.

THE SUPERINTENDENT of the railway mail service recently received an order from the post-office department directing the fumigation of all mail from the counties of Clay, Montgomery, Putnam, Owen, Vermilion, Greene, Sullivan, and Vigo. The order is issued on account of the smallpox epidemic.

MISSOURI.

THE ANNUAL report of the German Hospital, Kansas City, shows that 720 patients were treated in the institution during the past year. The receipts and expenditures were about $14,000.

THE DEATH of a "Christian Science" believer occurred in St. Louis, February 3. The autopsy revealed the fact that death was the result of a strangulated hernia and could have been prevented had medical aid been sought.

TENNESSEE.

DR. J. FOSTER SCOTT has assumed his duties as city physician of Knoxville.

Nashville.

DR. OWEN H. WILSON leaves soon for a six months' tour in Europe.

DR. LARKIN SMITH has been re-elected health officer of Nashville.

AT A meeting of the City Board of Health, January 29, Dr. J. D. Plunkett was elected president for the ensuing year.

WISCONSIN.

AT A recent meeting of the Waupaca County Board it was resolved to build an insane asylum for that county.

THE STATE Board of Medical Examiners will meet at La-Crosse for the purpose of licensing such physicians as desire to practice in the state after April 1.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 27 shows the total deaths to have been 102, of which 58 were white and 44 colored. At the close of the week there were 80 cases of diphtheria, 121 of scarlet fever and 4 of smallpox under treatment. There were three fatal cases of diphtheria but none of scarlet fever or smallpox. During the week there were 84 births, 14 still-births and 27 marriages.

Washington.

AT THE 311th meeting of the Washington Obstetrical and Gynecological Society, held the 2d inst. Dr. Fry reported a case and read a paper entitled "An Indication for Symphysiotomy."

DR. GEO. R. SORREL, the resident physician at the Washington Asylum Hospital, has tendered his resignation, and the commissioners have accepted the same and appointed Dr. J. F. Wallace, his successor.

EMERGENCY HOSPITAL.

At the meeting of the attending staff of the hospital, held on the 3d inst., the report of the work done for the past month was presented, and showed 1319 new cases, 4772 visits, 233 operations, 45 ward cases with 67 ambulance calls, 6 deaths and 5 post-mortems. The training school for nurses was reported to be in a flourishing condition and a committee of the staff was appointed to make some changes in the teaching department of the school.

IN CONGRESS.

Mr. Dalzell has secured the passage of the Senate bill, through the House joint resolution 140, which appropriates $4000 for a pedestal for a statute in Washington, D.C., in honor of Samuel Hahnemann, the founder of homeopathy. The resolution provides for its erection on public grounds in other than the Capitol or Library grounds, to be decided by the Chief of Engineers, U.S.A., the chairman of the Joint Committee on the Library, and the chairman of the Hahnemann Monument Committee of the American Institute of Homeopathy. Senator Hawley submitted a resolution, which was referred to the Committee on Printing, that there be printed 5000 copies of a document entitled "The use of the Roentgen Ray by the Medical Department of the U. S. Army in the War with Spain, 1898," of which 1000 copies shall be for the use of the Senate, 2000 for the use of the House of Representatives, and 2000 for the use of the War Department. Surgeon-General Sternberg writes approving the resolution, endorsing the work and suggesting that the report be also distributed among the leading surgeons of this country and Europe; the report also bears the approval of the Secretary of War.

CANADA.

ON ACCOUNT of the continued spread of smallpox in several districts of New Brunswick, general vaccination is proceeding in St. John's and other cities and towns of that province.

THE AFFAIRS of the provincial asylum at New Westminister, B.C., are to have a searching governmental inquiry. The legislature of the province, now in session, is appointing a special commission.

OWING to the prevalence of smallpox in Washington (U.S.), the provincial health authorities of British Columbia are now putting into force the regulations for the prevention of the introduction of the disease into that province.

DR. J. N. E. BROWN, at one time secretary of the Ontario Medical Association, and now territorial secretary and clerk of the Yukon Council at Dawson City, was married on New Year's day to Miss Freeman of Toronto, the Yukon governor's assistant secretary, a lady who had gained considerable repute in Canada as an authoress under the *nom de plume* of Faith Fenton.

LODGE PRACTICE.

In connection with the stand taken by the Medical Society of Victoria regarding lodge practice, it is stated that several applications have been received in response to the advertisement noted in the last correspondence to THE JOURNAL, but as yet no appointments have been made. It is indeed to be deplored that there are any members of the profession in British Columbia or elsewhere throughout the Dominion who would become practitioners in Victoria under such circumstances. May the report prove false. The fraternals will petition the legislature now in session asking them to revise and amend the medical laws of the province.

SANITATION OF MONTREAL.

Montreal is in the throes of a civic election, and the question of better sanitation is occupying a leading place in the campaign. Presiding at a general meeting of citizens this week, Dr. Reid stated that in respect to sanitation, this is one of the worst cities in the world, and that the death-rate for children between 2 and 5 years is fearfully high. Prof. J. G. Adami, addressing the Council of Women recently, made the statement that Montreal, in all that goes for sanitation, is twenty years behind all the other large cities on this continent, and that such a state of affairs will continue as long as the municipality is run in the interests of a clique and not for the common good of the citizens. He further spoke on the dangers in the city milk-supply.

MONTREAL GENERAL HOSPITAL.

The authorities of the Montreal General Hospital are making a special appeal to the general public for more generous support. Owing to increased expenses in connection with better equipment, the trustees have deemed it advisable to issue a special circular letter to the citizens of Montreal. While the expenses have increased, the contributions from the public have remained about stationary, being $24,654 in 1894, and $24,812 in 1899: besides the revenue from investments has considerably diminished from the decrease of the rate of interest. During the past year 2730 patients were cared for in the wards, while 35,078 outsiders received medical attendance at the institution.

AN IRREGULAR PRACTITIONER.

A member of the profession in Toronto—though not particularly of the profession—along with the proprietor of an alleged "cancer cure" has been committed for trial by the police magistrate of the city, charged with manslaughter, as the result of the death of a citizen, who was the subject of an incurable cancer. It has been stated that the death was accelerated through the application of a strong caustic paste to the man's side, which corroded the tissues, laying bare several ribs and the pleura of one side, resulting in an attack of pleurisy and pneumonia, of which he died. The accused will come up for trial at the May sitting of the assize court.

THE EIGHTH COMMANDMENT AS APPLIED TO A CANADIAN MEDICAL JOURNAL.

Some severe criticism of the medical journal alluded to has been noticed in certain quarters regarding the wholesale transference of articles appearing originally in other periodicals, to the pages of a Toronto journal without due and proper credit to the source from whence the articles were "pinched." Without having heard the other side—there may be no other side—your Canadian correspondent must needs say a few words on the subject. Not that it is the purpose to condone any such nefarious acts as have been charged—and even though the "peculiar methods" had been noticed for some time past, still, probably the duty devolves here to defend some of our fellow practitioners of that city, who were formerly on the editorial staff of the journal referred to, as they may not have been aware of the procedures, and further may have never seen the strictures passed on themselves as "editors" of the journal in question, as before the time the exchanges had occasion to complain, the editor and the staff of editors had retired and completely severed their connection therewith, leaving the field entirely in the possession of the sole proprietor of that journal. That the oldest medical journal in the Dominion of Canada should have fallen into such disgrace with its exchanges is certainly lamentable; but the fact that one unskilled in the etiquette of journalism was thus, by force of circumstances, thrust into the breach, may be scant excuse for the unwarrantable acts laid to his charge. It is rumored that one of our bright young physicians is about to take hold of the editorial helm, and if this rumor prove correct, the journal will rapidly regain its lost prestige.

TYPHOID FEVER IN MONTREAL.

After an interval of some years, Montreal is once again brought face to face with an epidemic of typhoid fever. The incidence of the disease at this juncture is largely due, it is stated, to the city milk-supply, being almost limited to those families obtaining their milk from one dealer. Although this same dealer, from the moment he was informed that something was wrong with his milk, took steps to avert the danger of an epidemic, he is now under considerable condemnation, severe and just, for what is asserted to be his criminal disregard or ignorance of the ordinary rules of hygiene. At some point or other the water employed to wash the milk cans became contaminated; and the important question is raised how Montreal as well as other cities in Canada is to legislate in order to prevent these epidemics of typhoid through milk. At the present time, in Montreal, the city milk inspectors are powerless outside the city limits; and although all the milk supplied to the city comes from districts lying entirely outside the corporation, the city authorities have no right to inspect the sources of the supply, so as to condemn un-sanitary buildings, defective drainage, etc.

Correspondence.

Medical Education.

CHICAGO, Jan. 29, 1900.

To the Editor:—The very comprehensive and elegant editorial on "Medical Education," in THE JOURNAL of January 27, must commend itself, on the whole, to every teacher of medicine. It is a startling, if not disgraceful, fact that we have, during the past twenty years, seen the army of specialists grow, while the regular practicing physician has sunk into corresponding insignificance or obscurity. It is now the ambition of far too many medical students to become specialists in one department or another, where they can practice medicine "handsome and out of the wet."

From the standpoint of the schoolmaster, however, there are a few assumptions in the editorial which might lead to erroneous conclusions. In the first place it is a mistake to assume that any American medical school proposes, or ever proposed, to put the student of medicine to the serious work of original medical research and investigation. Doubtless this erroneous assumption comes from the fact that it has been proposed, and successfully tried, to put the student in the position of an observer and investigator, and in this manner to teach him the elements and facts of medical science in an unforgetable manner. This method is followed out in many of our laboratory guides in chemistry and physiology, as for example in "The New Physics," by John Trowbridge of Harvard University (D. Appleton & Co., 1884); in the "Text-Book of Chemical Phsiology and Pathology," by W. D. Halliburton (Longmans, 1891); and in "A Manual of Physiology," by G. N. Stewart (Bailliere, Tindall & Cox, 1895), not to mention other efforts of equal value. In every one of these manuals the author attempts to guide the student, by a series of directions and questions, to such operations and reflections as will inevitably lead him in the course of a few hours or even minutes to apperceive those related facts on which the science rests, the discovery of which consumed years and sometimes centuries of professional energy and experiment. Such exercises present the fact or facts to the student with all the vividness and intensity experienced by the original discoverer, and in this way he is led, in the course of a few weeks, through all the experiences of the medical profession.

In the next place the editorial erroneously assumes that there are certain inviolable principles at the foundation of medicine. It is a fact that certain principles do underlie the homeopathic system, but medicine is an inductive science, resting on a multitude of facts and phenomena, each one of which can be verified *ad libitum*. In this respect medicine differs from the deductive systems of homeopathy, theology, and law. Certain verifiable facts on which medicine rests have been correlated into theories from time to time. These theories have stood the test, some of more and some of less time and criticism. Many of them have ranked with the so-called principles of the deductive systems of homeopathy, theology, and law, but they are not in any sense principles, and the science of medicine does not rest on them. Any day a new interpretation or a new combination of the verifiable phenomena on which our dearest theory rests may be proposed by some unheard-of stripling. If this interpretation be truer and explain the verifiable facts more completely or rationally, then the new thory displaces the old, and our text-books, which follow the canonical nomenclature, must substitute new "principles" for the superannuated.

In the third place, it is an error to assume that there can be any effective teaching of the science or art of medicine in *ex cathedra* presentation of the theories or "principles" in which the verifiable facts of medicine and their relations have been conventionally expressed. The abstract expression of even the most simple correlations of unknown phenomena make no true nor lasting impression on the mind of the student, but given the experience of discovering the concrete phenomena and the further experience of correlating them and expressing this correlation even imperfectly, the student readily grasps the extended theory in all its details and keeps it ready as a part of the formulæ or machinery of his mind. Should he in time forget this theory, or should its expression become confused in his mind, he can go back to the memory of his experiences or experiments and rebuild it and then make use of it with any matter at hand.

BAYARD HOLMES, M.D.

Pre-Columbian Leprosy.

NEW YORK CITY, Jan. 25, 1900.

To the Editor:—In Dr. Kinyoun's able report on leprosy, as a delegate to the International Leprosy Conference, Berlin, published in the "Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States," for the years ending 1897 and 1898, there are two errors to which I beg to call attention. On page 27 (1897 report), he says: Ashmead (New York) claims to have demonstrated that leprosy existed in America in the pre-Columbian period, and submits photographs of bone lesions which have been discovered in the ancient Peruvian graves. Further, this hypothesis is borne out by the specimens of Peruvian pottery of the Incan period."

My position is directly contrary to all this, as Dr. Kinyoun might have found out by simply reading my article (The Question of Pre-Columbian Leprosy: Photographs of Three Columbian Skulls and Some Huacos Pottery) published in the first volume of "Mittheilugen und Verhandlungen der Internationalen Wissenschaftlichen Lepra Conferenz zu Berlin," 1897. On page 73, I say: "There is no evidence in any bones that I have examined in America of any such thing as pre-Columbian leprosy; not a pharynx of a mummy shows a melting of bone, not a hand shows mutilation; no tuberculation of the tissues of the face, not a nose dropped in, nor can we find evidence of the importation of East Asiatic customs. Outside of the evidence on pre-Columbian potteries, deformations of faces, never of fingers and toes, is there the slightest evidence of the pre-Columbian leprosy. As to the deformities on huacos pottery, I exhibit here two photographs, each containing five potteries. These are from Chimbote, Peru, excepting one, the largest, which comes from Tepen, Peru. All these specimens are pre-Columbian, undoubtedly. In the first photograph, the one containing the figure lying on its belly, with amputated feet, the other four figures have also amputated feet, which of course, is not seen in the photograph. The figures are represented as kneeling, so by turning them around, the fact of the amputation appears. The flaps are shown, and the two bones on each leg. Whatever disease is represented in these faces must have been very frequently accompanied by some disease of the feet requiring amputation; and not of one foot, but of both. One of these figures is shown in the act of dressing the stump, with a cup containing some medicine; his other foot can not be seen, as he is sitting on it. In many of these faces, the nose has been eaten away, that is the cartilaginous part of it. In no instance does this eating away of the nose show any resemblance to the eating away of the nose by leprosy. The bones are never represented melted away, but are always present, only the soft part is gone. In many of these figures there is also a partial or total loss of upper lip, that is, the lip is eaten away, not drawn away by cicatrization, as would be the case in leprosy.

"In one of these figures we see a drawing-back of the head; this is accompanied by loss of nose and partial loss of upper lip. Whatever disease appears in the face, it is reasonable to suppose afflicted the spine. Tuberculosis (lupus) alone could have worked in that manner. If it was not this, it was then syphilis: but it could never have been leprosy.

"In two of our figures there are extreme prognathism, and evidently a diseased condition is meant. Could leprosy have produced that! Never."

Dr. Kinyoun's second mistake is in attributing to Dr. Buzzi, some remarks which followed the reading of my paper. It was Dr. Polakowsky, of the Berlin Anthropological Society, who discussed the question of pre-Columbianism of leprosy in America, taking my side against Dr. Virchow, who had attacked it.

ALBERT S. ASHMEAD, M.D.

Office Treatment of Female Generative Organs.

KEARNEY, NEB., Jan. 27, 1900.

To the Editor:—In THE JOURNAL of January 27, Dr. Milo Buel Ward has sounded the bugle-call of reform in that pernicious practice of office treatment of female generative organs.

How often do we see, in the present day, poor victims of that so-called tinkering local treatment week after week, with instruments that have been used on patient after patient, with only the cleaning that soap and cold water is able to give; admitting that proper sterilization has been done, the delicate endometrium has been subjected time and again to the ravages of the cotton probang? It is true, as Dr. Ward says, that the application of medicine to the vaginal vault for diseased appendages is quite as scientific as it would be for us to wash our faces in a bichlorid solution for the cure of post-nasal catarrh. Would that this article might be printed in abstract form and mailed to every physician in the land, and especially to the country practitioner, who does so much of this, never stopping to think of the many poor victims he sends out into the world, injured rather than benefited.

F. A. PACKARD, M.D.

Association News.

Rates for the Atlantic City Meeting.—The AMERICAN MEDICAL ASSOCIATION'S Committee on Transportation has for some time been in communication with the different passenger associations for the purpose of securing reduced rates to the June meeting. The Committee has asked a one-fare round trip with fifteen-day extension for that occasion, and at present has a preliminary report, but will present a full report through THE JOURNAL, probably in the next issue.

Section on Laryngology and Otology.—A most excellent program for the meeting in Atlantic City, June next, is announced for this Section. The list of papers to be presented is now complete and the program is full. Those who are to read papers are urged to send their abstracts by May 1, so as to give the Committee ample time to suitably arrange the topics for publication. C. R. Holmes, chairman; J. A. Stucky, secretary.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

GENERAL AND LOCAL ANESTHESIA. By Aimé Paul Heineck, M.D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery, Northwestern University Woman's Medical College. 124 pages. Price $1. Chicago: G. P. Engelhard & Co. 1899.

THE URINE AND THE CLINICAL CHEMISTRY OF THE GASTRIC CONTENTS, THE COMMON POISONS, AND MILK. By J. W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Sixth Edition, Revised and Enlarged. 12mo., 41 Illustrations. Price $1, net. Cloth. Philadelphia: P. Blakiston's Son & Co. 1899.

MANUAL OF DISEASES OF THE EYE. By Edward Jackson, A.M., M.D., late Professor of Diseases of the Eye in the Philadelphia Polyclinic and Colleges for Graduates in Medicine. 12mo, over 600 Pages, with 178 Illustrations from Drawings by the author. Philadelphia: W. B. Sanders. 1900. W. T. Keener, Chicago Agent.

KING'S COLLEGE HOSPITAL REPORTS: Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Nestor Tivard, M.D., F.R.C.P., W. Watson Cheyne, F.R.C.S., F.R.S., John Phillips, M.A., M.D., F.R.C.P., and W. D. Halliburton, M.D., D.R.S. Vols. iv and v. 8vo. Cloth. Price $1.80. London: Adlard and Son. 1898-99.

HERMANN LUDWIG FERDINAND VON HELMHOLTZ. By John Gray McKendrick, M.D., LL.D., F.R.S.S.L. and E. 8vo., cloth. Pp. 300. New York: Longmans, Green & Co. 1899.

MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Vol. 82; Second Series, Vol. 64. 8vo., Cloth. Pp. 475. London: Longmans, Green & Co. 1899.

LECTURES ON THE PRINCIPLES OF SURGERY. Delivered at the University of Michigan by Charles B. Nancrede, A.M., M.D., LL.D., with an Appendix Containing a Résumé of the Principal Views Held Concerning Inflammation, by Wm. A. Spitzley, A.B., M.D. Illustrated. 8vo., Cloth. Pp. 398. Price $2.50, net. Philadelphia: W. B. Saunders. 1899. W. T. Keener, Chicago Agent.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German, and Spanish Authors. Edited by Wm. F. Norris, A.M., M.D., and Charles A. Oliver, A.M., M.D., of Philadelphia. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With 51 Full-page Plates and 211 Text Illustrations. 8vo, Cloth. Pp. 950. Price, $20. Philadelphia and London: J. B. Lippincott Co. 1899.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1897-98. Vol. i, containg Part 1. Pp. 1280. Washington: G.P.O. 1899.

MANUAL OF ORGANIC MATERICA MEDICA AND PHARMACOGNOSY. An Introduction to the Study of the Vegetable Kingdom and the Vegetable and Animal Drugs Comprising the Botanical and Physical Characteristics, Source, Constituents, Pharmacopeial Preparations, Insects Injurious to Drugs, and Pharmacal Botany. By Lucius E. Sayre, B.S., Ph.M. Second Edition, Revised. With Histology and Microtechnique. By William C. Stevens. Illustrated. 8vo., Cloth. Pp. 684. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1899.

WATER AND WATER SUPPLIES. By John C. Thresh, D.S.C. (London); M.D. (Victoria); D.P.H. (Cambridge). Second Revised Edition. 8vo. Cloth. Pp. 438. Price $2. Philadelphia: P. Blakiston's Son & Co. 1900.

BLANK BOOK FOR AUTOPSY-PROTOCOLS. By Aldred Scott Warthin, M.D., Ph.D., Assistant Professor in Pathology in the University of Michigan. Ann Arbor: George Wahr. 1899.

THE LUTE AND LAYS. By Charles Stuart Welles, M.D. 12mo.; Cloth. Pp. 104. Price $2. New York: The MacMillan Company. 1899.

Deaths and Obituaries.

VANDYKE G. SCHIRNECK, M.D., a graduate of the University of Maryland (medical department) died at Hagerstown, Ind., January 30, aged 55 years. He was a native of Frederick County, Maryland, took his medical degree in 1882, and practiced in Baltimore until about twelve years ago, when he removed to Indiana.

GERARD F. MASON, M.D., died in Charlestown, W. Va., of general debility, on the 30th ult. He was born in Virginia in 1815, and took his medical degree at the Jefferson Medical College in 1841, locating in Charlestown early in 1842, where he continued to practice until about four years ago.

HORACE VAUGHAN, M.D., Middletown, Conn., died January 22. He was born in Delaware in 1859, was graduated from the Jefferson Medical College in 1888, and was a member of the Delaware State Medical Society.

R. B. SKINNER, M.D., Barton, Vt., born in 1834 and graduated from the medical department of Harvard University, class of 1858, died recently. During the Civil War he served as a surgeon of the 3d Militia Regulars of Vermont, and later was a member in the legislature in that state.

E. T. PAINTER, M.D., Redlands, Cal., aged 44, died January 22. After graduating in medicine he took a post-graduate course in Berlin and Vienna, and was later connected with a Pittsburg medical journal, moving to Redlands in 1891.

ERNEST GEORGE METCALFE, M.D., Long Island College Hospital, Brooklyn, N. Y., 1872, died at his home in that city, from renal disease, February 2. He was for four years a lunacy examiner in the charities department and from 1886 to 1888 was a civil-service commissioner.

A. J. AXTELL, M.D., Bloomington, Ind., born in 1827 in Pennsylvania, died January 25. He began the study of medicine in 1847 and in 1852 was Captain of Co. A, 97th Volunteers, from blood poisoning. He was 55 years old, was at one time mayor of his city, and during the Civil War served in the 3d New York Light Infantry.

G. S. LAUTERMAN, M.D., Chestertown, Maryland, died in Wilmington, Del., January 31. He studied medicine in Chicago and had practiced medicine about six years.

FRANK HODGKIN, M.D.,

JAMES J. OATMAN, M.D., Altoona, Pa., died in that city January 30, aged 62 years. He was a graduate of the Jefferson Medical College and a veteran of the Civil War.

Among others we note the following deaths:

James M. Briggs, M.D., Bowling Green, Ky., January 26, aged 68 years.

Elsworth Colton, M.D., New Britain, Conn., January 26, aged 42 years.

J. J. Cooper, M.D., Barnett, Ga., January 24.

Eldridge G. Decker, M.D., Ft. Fairfield, Me., January 29, aged 74 years.

W. W. Duncan, M.D., Louisville, Ill., February 1, aged 70 years.

William Halsey, M.D., Caldwell, N. J., February 2, in his 85th year.

Edward D. Hitchcock, M.D., Newton, Mass., January 26, aged 45 years.

Wirt Johnston, M.D., Jackson, Miss., January 25.

D. S. Marquis, M.D., Rochester, Pa., January 31, aged 79 years.

M. G. Olivier, M.D., Berwick, La., January 26, aged 37 years.

Elijah S. Shirley, M.D., Xenia, Ill., February 1, aged 73 years.

A. J. Thomson, M.D., Cadillac, Mich., January 27, aged 59 years.

M. H. Van Riper, M.D., Kankakee, Ill., January 29, aged 67 years.

M. G. Whittier, M.D., Fairfield, Pa., January 30, aged 52 years.

Lloyd Wilbur, M.D., Hightstown, Pa., January 27, aged 70 years.

DEATHS ABROAD.

Thomas Grainger Stewart, a noted Scotch physician, died in Edinburgh, February 3, aged 63 years. He was born in Edinburgh in 1837, and educated at the University of Edinburgh. After graduating he studied in the universities and hospitals of Berlin, Prague, and Vienna. On his return to Edinburgh, he became resident physician in the Royal Infirmary. He was made pathologist to this institution and, in 1876, was appointed professor of the practice of physic in the University of Edinburgh. He published works on kidney, lung, and nervous diseases. He was president of the Medico-Chirurgical Society of Edinburgh and of the medicine section of the British Medical Association, and at the time of his death president of the Royal College of Physicians in Edinburgh and physician in ordinary to her Majesty, the Queen, in Scotland.

Miscellany.

Mosquitoes and Malaria.—An unofficial letter from Java, to the Berlin *Post*, states that Koch and his Dutch assistants are becoming more and more convinced that a single family of mosquitoes is the propagator of malarial infection. Investigation at the hill resorts where the people seek and find refuge from malaria showed the complete absence of this—the white spotted-wing—variety.

Traffic in Cadavers.—The newspapers of the last few days have contained accounts of the discovery, at Sioux City, Iowa, of a body shipped by express from Baltimore, Md. A janitor from the College of Physicians and Surgeons, Baltimore, has been arrested and committed to jail in default of $1000 on the charge of shipping bodies out of the state. It was found that there had been no foul play, the man having been struck by a street-car, dying in consequence at the city hospital after an ineffectual trephining. The body had then been sent, as usual, to the city morgue, for identification, and after remaining there the usual time, unclaimed, a burial certificate was given by the coroner and the body turned over to the health department, which consigned it for anatomic use to the College of Physicians and Surgeons. The janitor shipped it in a box marked "books," to Sioux City. He has implicated a former resident physician of the College of Physicians and Surgeons, now of Sioux City, and further intimated that he had been shipping bodies in the same manner for some time past. The Maryland law bearing on such cases is very stringent, making the offense a misdemeanor, and the penalty imprisonment for a term not exceeding five years of hard labor in the city jail. The Iowa laws against importing bodies into that state are also said to be very strict.

Early Differentiation of Idiocy.—By testing the sensibility to pain, the taste and the attention, Czerny has been able to differentiate imbecility or idiocy in very young infants, and the subsequent career of the child has confirmed his diagnosis in every case. (*Deutsche Med. Woch.*, January 11.) The tests are only reliable when the infants are physically sound, and if there is any coexistent affection they should be postponed until recovery. An entire lack of attention indicates the severest form of idiocy, an abnormally fleeting attention, hard to hold, as in the "agile imbeciles," offers the best prognosis. The taste is tested with 25 per cent. solution of saccharin; 2 per cent. solution of quinin sulphate, etc., and the expression of pleasure at the sweet and disgust at the sour taste is evident even in the youngest normal children. But the only positive sign is the permanent analgesia of the entire surface of the body, which only occurs in the imbecile. Very imbecile or idiotic children, even several years old, can be severely pricked with a needle again and again without eliciting any expression of pain or fear.

Smallpox Prevalent.—The following cases have been reported to the U. S. Marine-Hospital Service: Alabama, January 2-22, 6 cases; Florida, January 13-16, 3; Georgia, January 4-20, 60; Louisiana, Dec. 20, 1899, to January 20, 366 cases and 11 deaths; West Virginia, January 26, 26 cases. In Colorado there has been no widespread epidemic since last year, and the total of cases reported since January 1, is 17. The following measures to stamp out the disease are strictly enforced: 1. Immediate isolation of all cases. 2. Compulsory vaccination and detention for fourteen days following exposure. 3. Fumigation with sulphur for twenty-four hours, using five pounds to each one thousand cubic feet of space, and destruction by fire of such articles as can be burned. Vaccination is urged on all citizens. The Georgia epidemic started in a Savannah hospital and was traced directly to importation from Porto Rico. Up to the present time there have been 500 to 600 cases in the vicinity of Brunswick. In nearly every instance it has appeared in so mild a form that many physicians failed to recognize the disease. Although the mortality has been less than 4 per cent., the disease in Southeastern Georgia, with remarkable rapidity, extended along the lines of railways and has assumed a serious form. In Ohio, now that the medical profession has accepted the diagnosis of smallpox, the disease, while still appearing here and there, is making little headway, and there is not much probability of the development of epidemic conditions such as prevailed last year.

ANTIVIVISECTION: A REVIEW OF THE PROPOSED LAW.

WASHINGTON, D.C., Jan. 26, 1900

HONORABLE COMMISSIONERS, District of Columbia.

Gentlemen: Referring to a bill entitled "A Bill for the further prevention of cruelty to animals in the District of Columbia" (S. 34), which has been referred to me for an expression of opinion relative thereto, I have the honor to submit the following report:

The bill now under consideration is identical in its terms with Senate bill 1063, similarly entitled, which, having been favorably reported by the Committee on the District of Columbia, was pending in the Senate at the time of its adjournment, March 4, 1899. It undertakes to accomplish its purpose solely by the regulation of experiments on living animals, and must be considered in its relation to mischievous practices, if any, tolerated by existing law. The following statutory provisions seem to bear upon this subject (Abert's Statutes in Force, etc. p. 540 et seq.):

Sec. 5. . . . . whoever, having the charge or custody of any animal, either as owner or otherwise, inflicts unnecessary cruelty upon the same, . . . shall for every such offense be punished by imprisonment in jail not exceeding one year, or by fine not exceeding two hundred and fifty dollars or by both such fine and imprisonment.

Sec. 6. Every owner, possessor, or person having the charge or custody of any animal, who . . . knowingly and wilfully authorizes or permits the same to be subjected to unnecessary torture, suffering, or cruelty of any kind, shall be punished for every such offense in the manner provided in section one.

Sec. 9. Whenever complaint is made by any member of the Association for the Prevention of Cruelty to Animals (Washington Humane Society), on oath or affirmation, to any magistrate authorized to issue warrants in criminal cases, that the complainant believes, and has reasonable cause to believe, that the laws in relation to cruelty to animals have been or are being violated in any particular building or place, such magistrate, if satisfied that there is reasonable cause for such belief, shall issue a search warrant, authorizing any marshal, deputy marshal, constable, police officer, or any member of the Association for the Prevention of Cruelty to

Animals (Washington Humane Society), to search such building or place.

Sec. 10. It shall be the duty of all marshals, deputy marshals, constables, police officers, or any member of the Association for the Prevention of Cruelty to Animals (Washington Humane Society), to prosecute all violations of the provisions of this Act which shall come to their notice or knowledge, and fines and forfeitures collected upon or resulting from the complaint or information of any member of the Association for the Prevention of Cruelty to Animals (Washington Humane Society) under this Act shall inure and be paid over to said association, in aid of the benevolent objects for which it was incorporated

. . . . . .

Sec 15. Nothing in this Act contained shall be construed to prohibit or interfere with any properly conducted scientific experiments or investigations, which experiments shall be performed only under *the authority of the faculty of some regularly incorporated medical* college, university or scientific society.

What the foregoing provisions may mean to a mind trained in the subtleties of the law, I of course am unable to state; but to one who must accept language in its ordinary sense it appears that there is already ample provision for the punishment of any unnecessary cruelty; that the members of the Washington Humane Society have extreme power relative to the search of private premises on which there is reason to believe animals are being needlessly tortured; that it is not only the privilege, but also the duty, of every member of the society, as well as of every peace-officer, to enforce the law against such offenses, and that members of the Washington Humane Society are offered a special inducement to perform their duty by reason of the fact that all fines and forfeitures become the property of their society; and finally, that any person undertaking to perform experiments involving suffering on the part of any of the lower animals is protected from punishment only when such experiments are performed under the authority of some regularly incorporated medical college, university, or scientific society, and even then only so long as they are *properly* conducted. If this construction of the law be correct there is apparently no need for new legislation. If, however, there be such need in fact, it should appear from abuses which exist, or which have existed, without reasonable possibility of hindrance under present law.

The current law has been in force since 1871, more than a quarter of a century. With the obligation which has rested upon the members of the Washington Humane Society, among others, to enforce it, it may be accepted as certain that if any abuses have existed an effort has been made to correct them. The method of procedure for the enforcement of this law is by the issue of search warrants, and by arrest, and trial in the Police Court. The record, if any, of unsuccessful attempts to enforce it should be found *therefore*, in the Police Department or in the Police Court. I have been unable, however, to discover any evidence of a single search warrant having been issued, or of a single prosecution having been instituted, during this entire period, based on the alleged performance of experiments on living animals in violation of law; that is, the alleged performance of such experiments either improperly or without lawful authority.

I am aware that the objection may be made that it has been necessary to show malice in order to maintain a prosecution, and that for that reason, as much as by reason of the exempting clause, it has been impossible to prosecute for experiments on animals. But this is a matter which must depend upon the construction of the law, and it does not appear that any competent court has ever been given an opportunity to construe it. To one not versed in legal technicalities it appears that a law which forbids unnecessary cruelty might imply malice from the very absence of necessity, and that the exemption of the experimenter from liability under certain conditions can mean nothing else than that he is liable under all other conditions. If abuses exist or have existed why have the courts not been afforded an opportunity to say whether they can or can not be remedied under existing law?

But if we suppose that animals have been experimented upon in an unnecessarily cruel manner without possibility of prevention under existing law, the idea naturally suggests itself that specific instances of such experimentation must have been placed on record in the hearings which have been accorded those endeavoring to secure the enactment of this measure, and in the reports which they have filed with it. There has been no complaint that anything was excluded from such hearings or from such reports which had even *the most remote bearing upon the subject*; but while instances of alleged cruelty have been cited from various parts of the world not one has been placed on record which was in any way related to the *District of Columbia. The omission* is significant. In the absence of any explanation it is to my mind conclusive that the promoters of this measure had no such evidence to submit. And if the absence *of evidence to show that such abuses have existed* is noticeable, the lack of evidence to show that they are likely to exist is equally striking.

The foregoing considerations have convinced me that no legislation such as is proposed in this bill is needed. If, however, this were all that could be said of it, if it could be classed as harmless even if unnecessary, there would be no objection to its enactment, other than the undesirable cumbering of the statute books. No better way of discovering the probable effect of this measure, whether harmful or otherwise, could be found than by ascertaining the effect of similar legislation in other places where the general scheme of law is the same as that of this District. Unfortunately, however, no such legislation exists in the United States. Congress is asked to legislate tentatively for the District of Columbia. But even if the promoters of the proposed experiment be excused from showing any local need therefor, it is certainly incumbent upon them to show that it will do no harm: no one should be required to demonstrate that it will work mischief in order to prevent its enactment.

But in the absence of any possibility of ascertaining the probable effect of this proposed law by observation and analogy, and while waiting for evidence as to its harmlessness from those who are seeking to secure its passage, an examination of the bill will yield information upon which a provisional judgment, more or less accurate, can be based. One of the most important requisites of a law is that it shall be intelligible and definite; not intelligible only to the lawyer, but also to the average man who must live under it. Many of the provisions of the bill now under consideration are obscure and some seem repugnant to each other.

As an example we may cite paragraph *b* of section 2, which is as follows:

The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, *or by a duly authorized officer of the Government of the United States, or of the District of Columbia.*

It is by no means clear whether due authorization refers to the authorization to perform the ordinary duties of the office, or whether it refers to some special authority to perform experiments upon animals. If the former be intended persons having no knowledge of scientific matters are at liberty to experiment at will; if the latter, there is no indication of the source or form of this "due authorization"

Again, paragraphs *c* and *d*, section 2, read:

c. The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain, excepting only that in so-called inoculation experiments, or tests of drugs or medicines, the animal need not be anesthetized nor killed afterwards, nor in tests of surgical procedure need animals be kept completely anesthetized, during the process of recovery from a surgical operation. Otherwise than this the animal must be kept from pain during all *experiments*: and

d. Th animal must, if the pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been *inflicted on the animal*, be killed before it recovers *from the influence* of the anesthetic which has been administered.

Paragraph *c* provides that after an inoculation experiment the animal need not be killed: paragraph *d*, that if pain is likely to continue after the experiment, it must be killed. The former provides that in tests of surgical procedure the animal need not be completely anesthetized during the process of recovery from the operation; the latter, that if pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, it must be killed before it recovers from the influence of the anesthetic. Is the investigator to perform experiments of this sort with the liability of being compelled to defend himself in a criminal prosecution simply because of the vague language of this statute?

These citations are made solely for the purpose of illustrating the difficulty which will be likely to arise in determining the meaning of this bill should it become a law. As they have not been pointed out for the purpose of securing alteration or correction, it is not pretended that they may represent every doubtful or ambiguous phrase which occurs in the bill now under consideration.

If the language of this bill is uncertain, its effect, if enacted into law, seems, too, to be more or less obscure. In all of the discussion no allegation has been affirmed on one side, or denied on the other, with so much vigor as, that the proposed regulations are prohibitory in their character. The affirmative has been held by scientific men all over the United States, who have examined the provisions of this bill and many of whom are engaged in research work involving the use of living animals. The negative has been supported by persons entirely ignorant of the technique of vivisection or having only a theoretical acquaintance with it. As to the relative weight to be attached to opinions upon this point originating from such sources there can be no question. One matter, however, is so clear as to be beyond the reach of controversy: that is, that the proposed law would take the regulation of such experiments out of the control of medical colleges and scientific societies *and entrust it, even to the extent of absolute prohibition, to two* laymen, forming a majority of the Board of Commissioners. To this statement there is possibly one exception, and that is with *reference to the possibility of clerks and messengers in the service* of the United States or of the District of Columbia, being permitted in some more or less indefinite manner to perform experiments, *under paragraph b, section 2. But it is believed that if any* unprejudiced person, unbiased by emotion, will consider all of the restrictions imposed by this law—the trebly-indorsed applications and certificates, the registrations, the inspections, the use of anesthetics, the choice of animals, the reports, and the other technicalities which can be appreciated only after an effort to comprehend what this bill requires—he can come to but one conclusion, and that is that, if enacted into law, it will at the very least seriously hamper experimentation on living animals, and that it puts it quite within the reach of officers charged with its enforcement to execute its provisions so as to prevent such work even while nominally permitting it.

All of the rigorous requirements of this proposed statute might be looked upon lightly if they were such as would be called into action only by the commission of some act wrong either from a moral or a legal standpoint, and have reference only to the offender. But from the very moment of the passage of the bill there would be new rules of law so far as relates to animals, domestic and wild; new limitations upon a man's right of property in such things; new restrictions upon his freedom in the choice of means whereby to add to his own stock of knowledge and to the stock of knowledge of mankind as a whole; a new rule for the invasion of the homes, workshops, and laboratories of citizens, and a new rule for the search of their papers; and citizens would be required (if it were possible for law to require it) to bear evidence against themselves in the

form of reports called for by the Commissioners. And all of this change is to be made not because of any wrong done or alleged to have been done in this District, but because of alleged improper practices in Paris, Vienna, Milan, and elsewhere.

Pain is universally associated with the life of every vertebrate animal. The only fair way of considering the question now before us is, therefore, not by inquiring whether experiments such as it is proposed to regulate create pain, but by seeking to learn whether they increase or diminish the total amount of the suffering which exists and will continue to exist until the end of time. Those who seek the passage of this bill do not appear to have looked beyond the pain which may be caused in some cases by experimentation; it is a noteworthy fact that in few if any of the instances of alleged cruelty which they have set forth have they thought it necessary or material to the point at issue to state the purpose or the result of the experiment. In drafting this bill they have confined their attention so closely to the immediate, the apparent, suffering that they have forgotten the terror which must strike the animal, the deathly sickness, and the probable fruitless loss of life, likely to result from the very process of anesthetization, which must in many cases outweigh the pain which would be inflicted were the experimenter to proceed without the use of anesthetics. The good which has been accomplished by experiments on animals has been fully set forth elsewhere by the opponents of this bill. The atrocities which have been occasionally committed have been set forth in high light by those who seek its passage; but such rare crimes do not represent the generality of experimentation any more closely than the murders and rapes which are reported daily represent existing civilization. It is believed, moreover, that existing law is sufficient to punish any wanton infliction of pain should it occur here; certainly it has not been demonstrated that it is not.

I am not unaware that this report has every appearance of an argument against the bill to which it refers, rather than a statement of its merits. I regret that this should be the case, but I believe that whatever merit this measure has, has been fairly set forth. If I had felt it either desirable or necessary to gauge its value by my feelings rather than by my intellect, or to appeal to the emotions of others, it might have been possible to have given this report a different color. The emotions deal with what is apparent without looking beyond to see either the purpose or the result. Those whose special training has not been such as to enable them to appreciate properly the fruits of experimentation on animals are those who cry for its regulation out of existence. Those who know what has been and what is capable of being accomplished by it, are those who seek its continuance. The former judgment is the product of emotion: the latter, the product of thought.

In considering this matter I have endeavored to lay aside as far as possible my character as a physician, and to consider the proposed law fairly and impartially. The foregoing statement is the result. It may be summed up briefly as follows: The proposed law seeks to take from the regularly incorporated medical colleges, universities, and scientific societies the right which they alone now have to authorize experiments on living animals, and to confer such authority in a restricted form on the Board of Commissioners, a lay organization of which two men constitute a majority. It seeks to take from the courts the power to decide whether any experiment has or has not been properly conducted, and to limit their authority to the power to determine whether in any given case an experiment was performed according to certain rules and regulations laid down in this bill. It undertakes to do away with the necessity for a warrant for the search of premises on which experiments are conducted, enabling any or all of four inspectors to enter at any time without notice. It seeks to subject the papers of the experimenter to search without warrant, by requiring him to make such reports as the Commissioners may direct, and in this manner it undertakes to make him bear evidence against himself. In support of the proposed bill not one fact has been adduced to show that harmful conditions exist, ever have existed, or are ever likely to exist in this District, not curable by existing law.

As the result of a careful consideration of this measure I have the honor to recommend that it be referred to the Attorney for the District, for a consideration of its legal aspects and for a review of such questions of law as have, unavoidedly, entered into this report. I have the honor to recommend further, subject, of course, to the opinion of the Attorney, that this bill be returned to the Senate Committee on the District of Columbia with a statement that it is vague in many of its provisions; that there is no evidence of the existence in this District of any such conditions as it is apparently the purpose of the bill to correct; that existing law appears to be sufficient for all present purposes; that the enactment of the present measure will interfere with scientific investigation in this District; and that the bill should not be passed.

Respectfully,
WM. C. WOODWARD, M.D., Health Officer.

Queries and Minor Notes.

VACCINATION.

HILLSBORO, N. D., Jan. 18, 1900.

To the Editor: The discussion of vaccination, *pro* and *con*, has come to such a point in this vicinity, that I feel that something authentic in the way of statistics should be given the public, at least in this neighborhood. However, I am not in a position here to gather the material. Would it be possible for you to send me complete statistics of the epidemics of smallpox and protection by vaccination, which certainly must be in a compiled form? This question is growing so embarrassing that it seems it should, as far as possible, be finally settled, not only in the minds of the members of the profession, but especially in the minds of the people.

Yours truly, T. M.

ANSWER: Our correspondent sends us copies of a little monthly called the *Sanitary Home*, which contains what purports to be arguments against vaccination and its dangers. These arguments (?) are too absurd for notice, and we would first advise our correspondent not to enter into a controversy with one who displays such gross ignorance. It is impossible to give complete statistics of the epidemics of smallpox; they have been too numerous in years past, and still occur in unvaccinated communities. There are plenty of statistics showing the results of vaccination in checking them, and one of the best studies of the subject, giving the most complete data, is that of Ernest Hart, in the third volume of Allbutt's System of Medicine. The article by Aeland, in the same volume will also do to consult in regard to the possible accidents of vaccination. These, it is fair to believe, are largely due to faulty methods and uncleanliness, and with proper care can be almost entirely eliminated. A pin prick or a mosquito may cause death under certain conditions, and vaccination is also liable to cause trouble if proper care is not observed. As a sample of statistics we can take those recently published for the German Empire (Medizinal-statistiches Mittheilungen aus dem kaiserl Gesundheetsamte; Bd. v., Hft. iii; British Med. Jour., July 15, 1899), where vaccination and revaccination are compulsory of late years. In 1897 there were five deaths in a total of forty-five cases. Three of these occurred on the Russian and Austrian frontiers, where the chances of exposure are greatest: only one occurred in a large town. In the towns in Holland the deaths were seven fold greater, in England sixteen fold, in France 123 fold, and in Austria 247 fold greater. The statistics of Dr. Groff, who stamped out smallpox in Porto Rico, where it was epidemic, might also be quoted, and there have been no bad results from vaccination reported there. The above German figures are reliable. We can not vouch for those of Dr. Harmon in the paper sent, and seriously doubt that a million of vaccinated persons died of smallpox in Germany between 1870 and 1885. The official figures show that the average number per annum from 1866 to 1895 was only 116; in 1895 it was 27, in 1896, 10. There can be no better argument than these figures, during these years of compulsory vaccination, and if deaths were numerous before, the better the showing. We hope to refer to this matter editorially, next week.

ASSOCIATION OF COLORED PHYSICIANS.

OKLAHOMA CITY, O. T., Jan. 31, 1900.

To the Editor: 1. Does the AMERICAN MEDICAL ASSOCIATION admit, to full membership, either by vote or as delegate from state, county, or district societies, persons of the African race? 2. Is or is there not an American association separate and apart from the "White Man's," organized and maintained by the colored race?

T. A. C.

ANSWER: 1. The AMERICAN MEDICAL ASSOCIATION accepts all delegates from affiliated societies without regard to color. 2. Yes. There is an association called the American Medical Association of Colored Physicians and Surgeons, of which Dr. O. D. Porter, Bowling Green, Ky., is president.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 19 to 22, 1900, inclusive:

Ira Ayer, acting asst.-surgeon, from the transport *Wright* to Fort Wood, N. Y., to accompany recruits to Manila, P. I., where he will report to the commanding general for assignment.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, sick leave extended.

Christopher C. Collins, acting asst.-surgeon, sick leave extended.

Jose M. Delgado, acting asst.-surgeon, from Washington, D. C., to Tampa, Fla., to await further orders.

Rudolph G. Ebert, major and surgeon, U. S. A., from Vancouver Barracks, Wash., to the Department of Alaska as chief surgeon.

Charles Farmer, acting asst.-surgeon, from New York City to Lexington, Ky., for annulment of contract.

Robert J. Gibson, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers for promotion.

Frederick M. Hartsock, lieut. and asst.-surgeon, U. S. A., from New York City to Fort Warren, Mass.

J. C. Merrill, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

Hugh L. Taylor, acting asst.-surgeon, previous orders directing annulment of contract revoked; he will report for duty at Fort Douglas, Utah.

Walter Whitney, acting asst.-surgeon, member of a board at Fort Sheridan, Ill., to examine officers for promotion.

Ezra Woodruff, major and surgeon, U. S. A., member of a board on Governor's Island, N. Y., to examine officers for promotion.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Jan. 27, 1900:

Surgeon H. N. T. Harris, ordered to the *Albany*, via the *Prairie*.

P. A. Surgeon L. L. Von Wedekind, ordered to duty on the *Richmond*.

(*Changes by Cable from Asiatic Station.*)

Asst. Surgeon R. C. Holcomb, detached from the *Solace* and ordered to the *Helena*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Jan. 25, 1900:

Surgeon L. L. Williams, granted extension of leave of absence for ten days.

Surgeon W. J. Pettus, granted leave of absence for one month and 29 days from February 10.

Asst.-Surgeon H. B. Parker, directed to report at Washington, D. C., for special temporary duty.

Acting Asst.-Surgeon John Frick, granted leave of absence for thirty days from February 28.

BOARD CONVENED.

Board convened to meet at 378 Washington Street, New York City, on Wednesday, February 7, 1900, for the purpose of examining candidates for appointment as assistant-surgeon in the Service.

Detail for the Board—Surgeon H. W. Austin, Chairman; Surgeon C. F. Banks, and Surgeon L. L. Williams, Recorder.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended Jan. 26, 1900:

SMALLPOX—UNITED STATES.

Colorado: Denver, Jan. 7, 1 case; Huerfano County, Jan. 9, 3 cases.

District of Columbia: Washington, Jan. 12 to 18, 2 cases.

Georgia: Blackshear, Jan. 11, 16 cases; Brunswick, Jan. 11, 10 cases; Darien, Jan. 11, 2 cases; Jessup, Jan. 11, 2 cases; Liberty, Jan. 11, 1 case.

Indiana: Evansville, Jan 13 to 20, 2 cases.

Kentucky: Covington, Jan. 13 to 20 4 cases, Louisville, Jan. 11 to 18, 1 case.

Louisiana: Calcarien, Jan 7 to 13, 3 cases; East Feliciana, Jan. 13, 50 cases; Livingstone, Jan. 13, several cases; New Orleans, Jan. 14 to 21, 84 cases, 2 deaths; Shreveport, Jan. 13 to 20, 2 deaths.

Massachusetts: Malden, Jan. 13 to 20, 1 case.

Nebraska: Omaha, Jan. 13 to 20, 1 case.

New York: New York, Jan. 13 to 20, 1 case.

Ohio: Cleveland, Jan. 13 to 20, 20 cases; Youngstown, Jan. 15 to 22, 7 cases.

Oklahoma: Beaver County, Jan. 10, reported; Blaine County, Jan. 10, 1 case; Noble County, Jan. 10, reported; Pawnee County, Jan. 10, reported.

Pennsylvania: Allegheny, Jan. 13 to 20, 1 case.

Texas: Satte, Jan. 1 to 16, 75 cases, 1 death; Houston, Jan. 6 to 13, 4 cases.

Virginia: Portsmouth, Jan. 13 to 20, 20 cases, 1 death.

SMALLPOX—FOREIGN.

Brazil: Bahia, Dec. 2 to 9, 1 case; Rio de Janeiro, Dec. 1 to 8, 52 deaths.

Canada: Ontario, Nov. to Dec. 30, 243 cases.

Egypt: Cairo, Dec. 23 to 31, 7 deaths.

England: London, Dec. 23 to Jan. 6, 15 cases; Southampton, Dec. 31 to Jan. 6, 1 case.

France: Lyons, Dec. 7 to 23, 2 deaths; Marseilles, Jan. 2, epidemic: Nice, Dec. 19 to 31, 1 case, Jan. 1 to 8, 1 case.

Greece: Athens, Dec. 31 to Jan. 6, 3 cases, 1 death.

India: Calcutta, Dec. 8 to 16, 2 cases, 2 deaths.

Mexico: Chihuahua, Jan. 6 to 13, 9 deaths; Vera Cruz, Jan. 6 to 13, 1 death.

New Brunswick: Campbelltown, Jan. 13 to 20, 5 cases.

Russia: St. Petersburg, Dec. 23 to 30, 12 cases, 7 deaths

Scotland: Leith, Dec. 31 to Jan. 6, 1 case.

Spain: Corunna, Dec. 23 to Jan. 6, 3 cases, 4 deaths.

Turkey: Smyrna, Dec. 17 to 24, 3 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Jan. 16, 1 case.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Dec. 1 to 8, 8 deaths.

Colombia: Barranquilla, Dec. 23 to 30, 1 case, 1 death.

Cuba: Havana, Jan. 6 to 13, 4 cases, 3 deaths.

CHOLERA.

India: Calcutta, Dec. 8 to 16, 38 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, from outbreak to Jan. 8, 19 deaths.

PLAGUE—FOREIGN.

India: Calcutta, Dec. 8 to 16, 54 deaths; Kurrachee, Dec. 8 to 23, 3 cases, 3 deaths.

Japan: Formosa, Tamsui, Nov. 28 to Dec. 12, 14 cases, 7 deaths.

Paraguay: Asuncion, Nov. 7 to 21, 9 deaths.

Portugal: From outbreak to Jan. 6, 1900, 287 cases, 108 deaths

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O. W. Konzelmann, 2023 S. Jefferson to 2017 Lynch St., St Louis, Mo.

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G. T. Harris, Falls of Rough, Ky., to James River, Va.

B. E. Brockhansen, Lansing, Iowa, to 156 Stephenson [illegible] port, Ill.

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